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THE

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ORIGINAL COMMUNICATIONS.

ON THE PHOTO-FLUOROSCOPE.

BY J. MOUNT BLEYER, M.D., F.R.A.M.S., OF NEW YORK.

[Original Communication to the Royal Academy of Medicine and Surgery of Naples, Italy, For 1896.]

The idea of seeing by human device through many inches of solid matter is no longer a chimera—although still considered one only a few months ago—to men advanced in cathode ray analysis and experiments.

What is the advantage discerned by us in this latest discovery of science? To what limit does our expectation of its practical use in our science run? Our latest experiments with these unknown rays have enabled us to reach, and have actually revealed to our eyes, the human heart, lungs, skull, bones, larynx, accessory cavities of the face, and in fact most of the internal and hidden parts of the body. This is an extraordinary fact. To our ancestors it would have appeared a miracle, ascribable only to some supernatural agency, preferably that of the devil, for in the gloomy mood which they carefully cultivated the devil appeared to be a more potent agent in mundane affairs than Divinity itself. Even to us of the present who have carefully eliminated the supernatural, either in the form of God or devil, and who have been calloused to the marvels of the natural world by the thick-coming sensations that day by day, and even hour by hour, crowd upon our senses, this is an event altogether out of the common. But we are still little more reasonable than our progenitors. After the first stunning effect of an announcement of this sort we rebound into an unreasonable state of expectancy. We are not content with the marvel of the moment. We anticipate the future. We would outstrip nature and plunge into the supernatural. We exaggerate, we augur the utmost. We are disappointed if our fondest anticipations are not immediately realized.

The most appropriate remarks are those uttered by Mr. Denshaw, one of the few remaining followers of Zoroaster, who identifies the unknown light as one manifestation of what has been known to eastern scientists as astral light, or the seventh dimension of matter.

"As we touch the borderland between the known and the unknown, we just begin to comprehend in the shadows which float around us how matter and spirit flow into each other, and we reach out with still more eager hands to fathom the great mystery of life and evolution.

"The analysis of the akasa or ether by the Vedas thousands of years before Christ, the transmission to the eastern Hindoo sages, receiving from them clearer illustrations and greater force as they came down through the ages, no longer shut up in the mountain monasteries, are springing into life and strength at the magic touch of Science."

"The Roentgen light, before which the invisible and the opaque become transparent, is the clairvoyance of science, standing perhaps in the same rank, in some way not now understood, but reaching the same results as the mental or spiritual clairvoyance, which has long been a mysterious but demonstrated fact. Another disciple of this school, Dr. Guernsey, applied such terms as the 'cathode rays of clairvoyance,' and the 'all-seeing light;' he said it was impossible at this early state of development to form more than the faintest conception of the revelation of hitherto closely guarded secrets of nature to which it opens the door.

"In studying the molecules of matter in the attenuated ether of the high vacuum bulb, which, propelled by the cathode pole, strike out with such fierce energy as to pass through flesh, metals, bone, wood, and in fact all opaque objects, to the photographic plate beyond, we seem to have within our grasp, and subject to our control, those physical particles which are supposed to constitute the physical basis of the universe. These little particles of radiant matter which exist everywhere through the atmosphere—so minute that a quadrillion of them roam with freedom in a bulb some four inches in diameter—are in some of their properties as material as the floor upon which we stand, while in other properties they almost assume the character of radiant energy, moving with such rapidity as to permeate all bodies and all space, not simply penetrating unoccupied space between the atoms and molecules, but filling the entire domain of the physical from atom centre to atom centre and from space to space, as one indissoluble soul.

"Without the omnipresent atmosphere or ether of nature the phenomena would cease. Communication of energy from sun to planet, from constellation to constellation, could not be maintained unless it be conceded that motion, which is an inseparable factor of all energy, can travel through abyssmal voids without any medium of transmission.

"Every step in this discovery along these physical lines approaches nearer and nearer to the spiritual ideal and the demonstration of physical energy which bridges the chasm between mind and matter."

I make these quotations simply to show that this school of philosophy has also taken up the subject of X rays—from their point of view—which they claim demonstrated many of their beliefs of the unseen. This question, however, is to be disputed on many lines of thought by non-believers. It will be curious nevertheless to learn what the great psychologists and other logists will teach us when they finally reach conclusions.

Sufficient of the practical value of the application of the Roentgen rays to medicine and surgery is already known for us to pronounce them and the wonderful screen that reflects them as among the greatest triumphs won in the modern history of invention.

I am happy to say that after much experimenting in this field I have been enabled to produce the photo-fluoroscope.*

This invention enables the eye and the photographic sensitive plate to record simultaneously images as we are desirous of putting them on record.

The photography of luminous objects has been for some years an important factor in astronomical studies, as, for example, in the mapping of the stars, and the recording of solar and stellar spectra and the phenomena of eclipses, but of late it has been made to embrace a broader range of subjects. Several of the most reputable photographers and scientists have of late given this special branch much thought and study; and among them I cannot pass by without mentioning a most beautiful set of pictures made by Wallace A. Levison and by Nicola Tesla, whose illustrations of luminous objects have given me much pleasure and fruitful recompense. I owe to the study

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*I am indebted to A. Hamerschlag and to Mr. F. J. Harrison (editor of *Anthony's Photographic Bulletin*) for most valuable suggestions during the progress of this investigation.

of them the invention of the instantaneous photo-fluoroscopic photography of luminous objects taken directly from the fluorescent screen.

The invention bears my name (Bleyer's Photo-fluoroscope), and is very simple. It is practically an adaptation of the fluoroscope to the needs of the physician and surgeon, and consists in the combining of direct and instantaneous photography of the shadow thrown on the fluorescent screen In other words, it is simply a combination of an ordinary copying photographing camera and a fluoroscopic screen of special size, carefully fitted into the camera. Several other types of cameras can be adopted also for this purpose. The screen receives the object fully outlined in all its detail, while the camera is so arranged as to take time exposure of the object made visible on the screen. By this means the object can also be seen and studied and the trouble located before the photograph is taken. Then the proper focus is taken by means of the camera arrangements, and a direct photograph is obtained. The sensitive plate is then removed to the dark room and is there prepared like any other photograph.

The photo-fluoroscope has the advantage over other inventions of revealing the object on the screen, either to be seen directly by the eye or to be reproduced on a sensitive plate. This renders it of peculiar advantage to physicians and surgeons for positive diagnosis. The photograph is necessary only for recording purposes, as the object can be seen plainly by the naked eye, the phosphorescence making it possible to see the object plainly in darkness. Necessarily, this is more advantageous to physicians than the general method of shadowgraphing by the ordinary plate-holder, with the object placed thereon, without the assistance of the camera.

As far as we know at present in regard to the Roentgen rays, the laws applicable to light are entirely disobeyed, and consequently no lenses or camera can be taken into consideration. This light does not admit of being, so to say, refracted or reflected in the same manner as ordinary light, so that there is no possibility of direct use of the camera with the Roentgen rays. But the onward march has added the fluorescent screen, by means of which the eye can follow the rays through hitherto impenetrable substances, and with its assistance I have succeeded in establishing the method illustrated, which for the uses of physicians and surgeons is simpler and gives infinitely more satisfying results than any other method of which I know at present. The difficulty in accomplishing this can be appreciated only by those who have followed up the subject, and worked in the laboratory side by side with companions in the race for priority, and with full knowledge of the thousands of difficulties that beset the endeavors of the experimentor.

One of the most important advantages that the photo-fluoroscope presents over the Roentgen method of photography is, that curves, corners and angles are no obstacles to it, while an object in the Roentgen photography must always be in direct contact on a flat plate containing the sensitized plate; the reason being that the Roentgen rays must be applied directly on the surface of the object, while with the photo-fluoroscope it may be taken at a short distance. This is due to the fact that the laws of light applicable to photography have been applied by photographing the luminous shadow from the screen, and by the use of lenses.

A paper containing an abstract of my lecture, which will be found printed in the *New York Medical Journal*, April 25, 1896, contains an account with much detail on the invisible light of the spectrum, and therein I showed partly its relation to the present status of Roentgen shadowgraphy. Here I take up some of the physical phenomena noted in connection with direct photography by ordinary light rays, which obey the laws known to us. This will make the subject matter herein spoken of more intelligible to my readers.

It remains a demonstrated fact that a ray of light can be separated into its proximate or ultimate colors. These various portions of colored light have certain distinct properties, which have been most carefully investigated by different physicists. The illuminating power of of the spectrum, as might be imagined, exists in the most luminous portions of the band of colors, viz., in the yellow light; and experiments carefully conducted by Herschel and Frauenhofer confirm this fact, and show that the greatest amount of light exists nearer the red than the violet end of the spectrum. The colorific power of the spectrum increases gradually from the blue color; it rises to its maximum in the red; but what is the most curious, it reaches its greatest elevation beyond the limit of the visible red ray, or red end of the spectrum. The invisible rays of heat are, therefore, more powerful than the other heat, giving rays of the spectrum accompanied with light, as in the yellow, orange or red colors; the luminous radiations do not give as much heat as the non-luminous ones; and Tyndall, speaking of this remarkable circumstance, says: "In the region of dark rays beyond the red the curve shoots up in a steep and massive peak, a kind of Matterhorn of heat, which dwarfs by its magnitude the portion of the diagram representing the luminous radiation."

What is of most value to us just now is the consideration of the chemical influence of the spectrum. The chemical influence of the spectrum, unlike the heating and illuminating rays, is at its minimum at the red end, and rises gradually in intensity towards the violet. Light, as we know, acts as a chemical agent only with certain portions of its luminous rays, but, like heat, with its non-luminous rays. Ritter, of Jena, discovered that chloride of silver was acted upon and blackened beyond the violet end of the spectrum. Dr. Hentschel and Dr. Wallaston confirmed these facts. These chemical or actinic rays have been carefully studied and most industriously employed, so that a new art has been created, which is now called photography, and to-day we have made it one of the most subservient of additions to the requirements of industries and sciences. This late addition of instantaneous photo-fluoroscopic photography is most invaluable to the medical and scientific world. Moser has solved for science a valuable truth, by showing that certain rays have the power to set up chemical change; and this once begun may be continued with other colored rays that could not in themselves produce chemical decomposition. He shows this experiment by taking an iodized plate, with an engraving placed over it, and exposed it to light until the action had commenced; if this plate was then placed under the violet glass the picture was soon obtained, while a very long time elapsed and the result was imperfect when the same plate after exposure to sunlight was placed under a red glass. If, however, the prepared plate was first exposed in a camera to a blue light and then placed under the red glass, the picture was speedily obtained. In my article on "New Rays of Roentgen, the new photography," etc., *New York Medical Journal*, 25th April, 1896, I gave some detailed accounts, which were found to be most appropriate at this stage of the study on shadowgraphy by means of the fluorescent screen, etc. In these remarks phosphorescence has been considered; and here it may be mentioned that Becquerel calls the rays capable of setting up or commencing chemical action "exciting rays," and others which only possess the power of continuing a chemical change "phosphoregenic" or "continuing rays," and has identified the latter with the power possessed by light of rendering certain bodies luminous. Of these I had also spoken in the same article. It is the phosphoregenic rays, extending from the indigo to beyond the violet ray, which render certain bodies phosphorescent by insulation. Becquerel has invented a most ingenious instrument, called the phosphoroscope, by which substances as the tungstate of calcium and all others which have the same property of giving off fluorescence, can thereby be viewed directly after exposure to light and the time of the duration of the phosphorescent power accurately determined. Thus several bodies which are only phosphorescent for some fraction of a second have thereby been added to the long list of substances affected in a similar but more decided manner.

Prof. Stokes has investigated with the greatest care the phenomena which he titles fluorescence, or internal dispersion; figures or letters painted with a strong solution of sulphate of quinine in tartaric acid became curiously self-luminous when the rays passed through blue or, better still, violet glass, are allowed to fall upon them.

A tube of uranium glass conveying the coil-discharge in vacuo is similarly affected by this electric light. It was ascertained that prisms made of glass appeared to absorb a larger number of the more refrangible rays; and Prof. Stokes found that by using prisms made of quartz he could obtain with the electric light a spectrum six or eight times as long as the ordinary one; and his experiments indicate that the chemical, the luminous, the phosphoregenic rays, as rays of high refrangibility, are intimately connected with each other, and are only so many effects of one and the same cause. These experiments were based on the facts that when bright rays from the electric lamp are passed through blue glass, and then permitted to fall upon a plate of glass colored yellow by the oxide of uranium, the latter becomes self-luminous and emits rays which are altered in their vibratory power; the original rays have undergone a change in refrangibility.

Only a few days have swept by, and hardly have we recovered from the surprise that the Roentgen discovery gave us, we are again startled with another discovery of a variety of light called by M. Le Bon "*La Lumière Noire.*"

There can be no doubt about the fact that a new field has been opened for research since the recent labors of Hertz, Lenard and Roentgen have given us an idea of the discoveries that are still to be made in the study of light, and the extreme delicacy of the photographic plate. These facts prove each day to us how confined are the limits of our powers of sight. It appears to be absolutely demonstrated that the vibrations of light can manifest themselves at least in two separate ways, and that there is a visible and an invisible light, as is the case with heat.

The human eye is only adapted for impressions from visible light, whereas the photographic plate is affected by the obscure form of light. It may be that certain animals have the power of seeing this form of light, which may explain some of their habits that have hitherto seemed a mystery; but at the rate at which discoveries are now being made there is no necessity for speculating about the future. For the time being, one fact is much to be regretted—namely, that to understand each other we have to use the terms visible and invisible light, as though the words did not more or less destroy each other's sense; but until our vocabulary shall have undergone the necessary modifications we shall be obliged to make use of the terms to which we are accustomed.

There is, therefore, a visible and an invisible form of light, and the characteristic of the latter is that it has the power of passing through opaque bodies. Invisible light may come from cathodic rays, or even from an ordinary luminous body. Professor Roentgen has revealed to us some of the properties of the variety that comes from the electric effluvium, and now M. Le Bon calls attention to the peculiarities of that originating in luminous bodies. His demonstrated experiments, as presented to the Academie des Sciences de Paris in a communication, are as follows: In an ordinary positive photographic frame is placed a sensitive plate, and over it an ordinary photographic negative, which is covered in turn by an iron sheet the size of the anterior face of the frame The whole apparatus thus covered by a metallic sheet is exposed to the light of a petroleum lamp for about three hours. Energetic and prolonged development of the sensitive plate carried to complete blackness will then give a faint image of the negative, which can be clearly seen by transparency.

Without changing at all his preceding arrangement, M. Le Bon places behind the sensitive plate a thin sheet of lead and folds its edges over in such a way that they slightly cover the sides of the iron sheet. The sensitive plates in the negative are in this way imprisoned in a sort of metallic covering, of which the anterior part consists of iron, and the posterior and lateral parts of lead. After three hours exposure to petroleum light an excellent image is obtained, instead of a very faint one, as in the preceding case.

M. Le Bon thinks that the contact of the two different metals gives rise to a slight electric current, whose action is combined with that of the luminous radiations that have gone through the iron sheet. Solar light is said to give the same results as petroleum without being in any way more active—carbon, iron, copper and other metals are easily pierced by it. The most transparent metals for this black light are aluminum and copper, after which comes iron. Zinc, silver and tin, and particularly black paper, are much more resistant; but whereas the cathodic rays pass easily through black paper, black light cannot do so. M. Le Bon showed the academicians at their meeting a negative obtained through an aluminum plate, which was as clear as if it had been prepared in the ordinary way. These experiments have been successfully reproduced by several of his colleagues and proven to be of value to the photographic science and, perhaps, to ours. I have satisfied myself of his important work, and there is no telling what uses *La lumiére noire* may be put to soon.

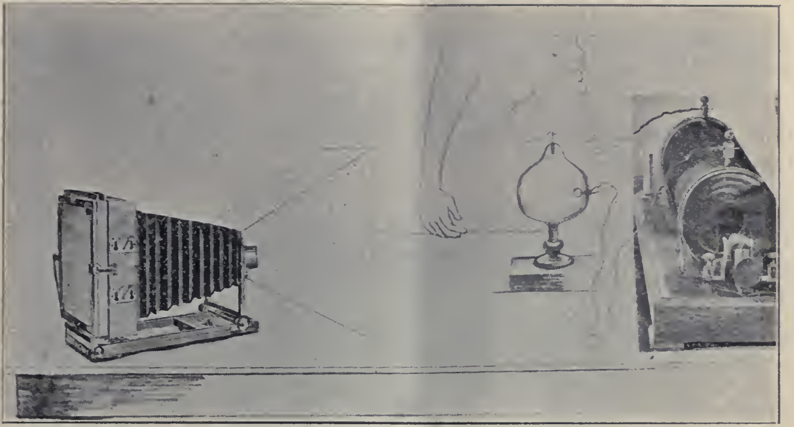

FIGURE 1. Dr. J. Mount Bleyer's Photo-Fluoroscope.

EXPLANATION OF THE MOUNT BLEYER PHOTO-FLUOROSCOPE.

To the left of this illustration is seen the camera fully equipped and its accessories mounted on a table, and its fluoroscope attached, showing on its screen a hand ready to be photographed by this process directly from its luminosity. The screen is arranged so that any size object can be taken in. The fluoroscopic box is very light, made of cardboard and fitted close on to the camera, and encircling the lens with zinc, thus preventing stray Roentgen X rays from reaching the sensitive plate through the wood portion of the camera. On the right side is a Crookes' tube attached to a Ruhmkorf coil, which is operated either by a spring vibrator, or preferably by a break wheel. The entire picture shows the full operation of photo-fluorographing. The latest model has many other detail attachments; this one is the first experimental model. This apparatus is now made by Hamerschlag & Co.

THE PRACTICAL POINTS IN PHOTOGRAPHING BY MEANS OF THE PHOTO-FLUOROSCOPE.

Above all things in photo-fluorography a dark room is required for good results. Here the object to be photographed should first be located with the fluoroscope, in order to fix its exact position. This done, the screen on the photo-fluoroscope must light up the object until every detail shows clearly. Now shut off the X rays before introducing the sensitized plate into the camera, to avoid any possibility of fogging the plate.

After these preliminary steps have been attended to, the X rays are turned on, and an exposure ranging from one to two minutes is allowed, and that depends upon the density of the object. Good strong X rays are required, and it will be found that a coil giving a spark of from six to eight inches will answer all purposes for ordinary work. In fact, all accessories should be in first-class working order. Much experience is also necessary, and the best teacher, for obtaining good results by this method as by the Roentgen. A focus tube is the best.

The plates should not be removed until the X rays have been shut off. Upon these few and simple injunctions depend the success of the photo-fluoroscope.

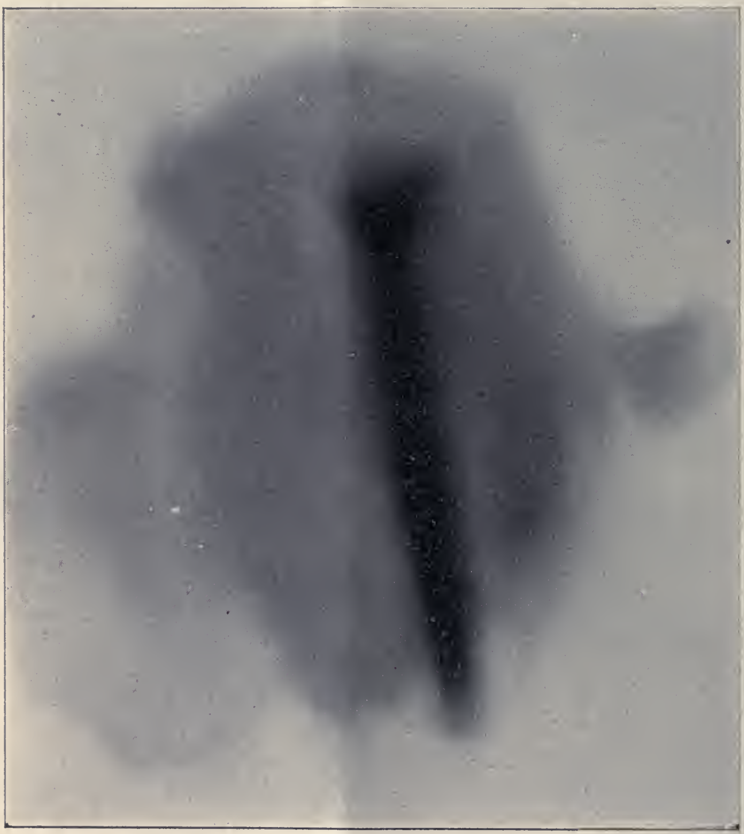

FIGURE 2. Photo-fluoroscopic picture of a larynx with an intubation tube in position, illustrating a foreign body in the larynx.

I succeeded as early as April 7th in locating a tube in the larynx, and another that had slipped down into the trachea, and recorded them, as shown in the accompanying picture, in the early trials and undeveloped stages of my photo-fluoroscope, and before the Crookes' tubes were brought up to standard make. I, nevertheless, present them herein, knowing that they will create curiosity and induce others to follow my footsteps in the use of the X rays in laryngology.

In my lecture, April 15th, 1896, before the Medico-Legal Society, I referred to this fact, notes of which were also published at the time. I refer to these dates now in confirmation of the priority of the objects located and photographed by me over those recently obtained by Dr. Levy, of Berlin, and others in England, and mistakenly accorded the priority in several of our dailies.

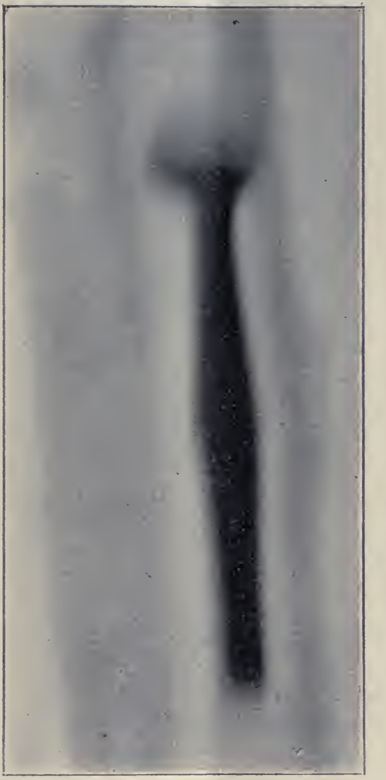

FIGURE 3. Illustration of a lost intubation tube found in the trachea. Removed April 2, 1896.

At present much of my time and work with the photo-fluoroscope is being spent in shadowing out tumors, growths, foreign bodies, and various diseased conditions of the larynx and bones of the face and their accessory cavities, and the lungs with their many complicated ailments. In these experiments I have so far been very successful in obtaining first-class definitions of the varying shadows, illustrating many interesting clinical conditions of these organs. Many fine specimens which I made are in my possession, which the above testifies to.

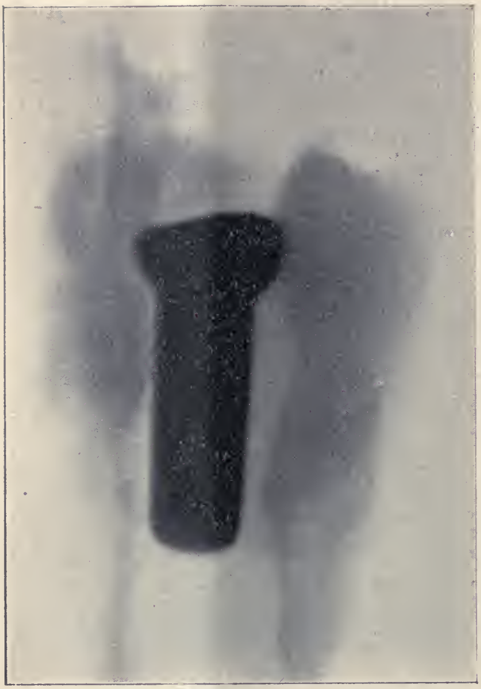

FIGURE 4. Showing intubation tube which shifted out of position into the subglottic region; extracted under headlight by a long forceps. The case was one of laryngeal diphtheria, and the shifting occurred after the inflammatory process became absorbed. Larynx found to be abnormally large.

The results of my further experiments will be taken up, with their technical points, in a paper following this.

460 Lexington Ave.

HAY FEVER AND ITS SUCCESSFUL TREATMENT.

BY SETH SCOTT BISHOP, M.D., LL.D., OF CHICAGO.

Attending Surgeon to the Illinois Charitable Eye and Ear Infirmary; Professor of Otology in the Post Graduate Medical School and Hospital; Professor of Diseases of the Nose, Throat and Ear in the Illinois Medical College.

The history and symptoms of hay fever are so familiar, that for the sake of brevity, that rare literary jewel, we will omit their consideration. The nature of the disease and its treatment are of all-absorbing interest.

Upon the pathology of hay fever there is pretty general unanimity of opinion among American specialists. In an extensive personal correspondence with a large number of these able gentlemen, I have taken pains to ascertain their views, and with few exceptions they adhere to the theory of its essential neurotic character. This is not antagonistic to the uric acid theory proposed by the writer at the meeting of the American Medical Association in 1893, as follows: An excess of uric acid in the blood causes hay fever, or nervous catarrh. Attacks can be stopped by precipitating the excess of uric acid from the blood by rendering the latter less alkaline with an acid treatment. Attacks can be prevented by reducing the amount of uric acid in the body to the normal, and maintaining it there. Uric acid exists in the blood in the proportion of about one to thirty-three of urea in health. When this proportion is disturbed by a relative increase of the uric acid, certain disturbances of a vascular and neurotic character arise. Among the manifestations of uric acidemia are: headache; pains in the limbs; insomnia; lassitude; depression of spirits; irritability of temper; the pains of neuralgia, rheumatism and gout; intense pruritus; eczematous eruption, the dermal analogue of coryza; numbness of the skin; creeping sensations; hyperesthesia and pain in the skin; asthma; epilepsy; coma; etc. Many of these symptoms of uric acid irritation are closely allied to paroxysms of hay fever, or, more properly, nervous catarrh. Sick headache and asthma sometimes alternate with these attacks, or take the place of them.

While suffering from migraine, Haig found the uric acid increased to the proportion of one in twenty or twenty-five of urea, whereas before and after attacks he found it as one to forty; and the headache was proportioned to the excess of uric acid over the urea, and not to the amount of alkali used to bring the uric acid out. The mental condition varied directly with the relative amount of uric acid in the urine. The excretion of the acid was greatly diminished before the attacks, *i. e.*, during mental exaltation. He claims that the effect of uric acid is to contract the arterioles and capillaries all over the body, producing the cold surface and extremities, raising tension of pulse, and, according to Marcy's law, that pulse rate varies inversely as the arterial tension, slowing the heart. Headache is attributed to a local vascular effect of the uric acid. During the warm months, or when the hay fever season is the worst, there is an excessive excretion of the acid, while in cold weather there is a minus excretion. During plus excretion there will be high arterial tension with anemia of the brain, bad temper, and other symptoms of irritation. Haig maintains that at this time a dose of acid would free the brain circulation from the power of the uric acid, and produce, as Roy and Sherrington have shown, an increase in its size and a free flow of blood in its vessels. Following these deductions Haig relieved his attacks of migraine, from which he was a great sufferer. He found during an attack of influenza that there was a rise in the acidity of the blood, urine and tissue fluids, thus driving the uric acid out of these fluids, diminishing its excretion and causing its retention in the body. Bertillon says that suicides increased forty per centum in France after the influenza epidemic. This may be accounted for by the accumulation of uric acid in the body during the diminished alkalinity of the blood, and when the blood regained its normal alkalinity the stored acid was taken into the circulation and produced its characteristic irritability and depressing effects.

In health about five to eight grains of uric acid are secreted every twenty-four hours, and it is readily soluble in the blood, which is slightly alkaline. If there is increased formation of this acid no harm results so long as it is promptly eliminated and the ratio between it and the urea is not disturbed. Haig found that by diminishing the alkalinity of the blood he freed it from uric acid, relaxed the arterioles, relieved headache and mental depression. Increasing the alkalinity increased the acid excretion, contracted the arterioles, slowed the circulation of the blood, and caused languor, depression, headache, and in epileptics a fit. Epilepsy, migraine, spasmodic asthma, etc., are like neurotic catarrh—functional nervous diseases. What Haig says about epilepsy and migraine may be affirmed of asthma and hay fever: "They may come on early in life, last for years or the whole of life, tend to recur at more or less regular intervals; are met with in members of the same family, may afflict one and the same patient—now a fit, now a headache, alternating or together. Epilepsy and headache, gout and rheumatism, are very commonly met with in the same family." Cerebral anemia appears to obtain in hay fever, and the attacks are relieved by such remedies as relieve anemia of the brain: amyl nitrite, coffee, and other cerebral stimulants.

While pursuing the study of gout and allied diseases dependent upon lithemia, I was struck with the close analogy between the conditions present with their local manifestations and the various phenomena of hay fever. The theory that the paroxysms of hay fever are due to a uric acid toxemia is not antagonistic to the present status of medical opinion or surgical treatment, but, on the contrary, explains questions that were inexplicable before. As a tumor or hypertrophied bone may give rise to convulsive seizures in epilepsy, and as its removal may be followed by relief, when no other structural cause exists, so in hay fever where new growths and other lesions of the nasal mucous membrane are present, the attack may be started by the accumulation and the suddenly setting free of uric acid. This precipitates the paroxysm by its irritant action, which finds expression in the group of symptoms characteristic of hay fever or asthma instead of some one of the other allied diseases. The particular form of manifestation may be determined by the growth, or seat of irritation, located in the nasal cavities. Where this is the only determining factor of the nature of the morbid symptoms, no other organic disease having resulted from the long-standing trouble, the removal of such a peripheral source of irritation may give relief from these symptoms, but it may not prevent the uric acidemia from switching off into other kindred lines of disturbances, if it be not corrected.

However, the primary determining cause of the particular manifestations in this disease is an inherent, perhaps hereditary, susceptibility of the nervous system. In this way only can we account for the fact that the same subjective or objective exciting cause (uric acid, pollen) will produce one train of distressing symptoms (nervous coryza) in one individual, and an entirely different one in another (asthma or migraine).

This uric acid hypothesis explains why some persons suffer from attacks under certain conditions in winter as well as during the warm months. It also unifies all the various forms of hay fever. They are all variations of a nervous catarrh. The periodicity of hay fever has a counterpart in migraine, which comes once in every seven, ten, fourteen or thirty days, for years or for life. But enough has been said to lay the base line of a treatment that has proven vastly more successful than any other thus far devised.

The treatment must take into consideration the three-fold nature of the disease: 1st, the abnormally susceptible nerve centers; 2d, the hyperesthesia of the peripheral termini of the sensory nerves; and 3d, the various local irritating agents. Among the third causes I class uric acid. A prominent feature of these seizures is that they often come on suddenly in the morning when first awakening from sleep, although the previous afternoon and evening may have been free from suffering and the night one of restful repose, with no direct access of dust-laden atmosphere from without and no change in the contents of the sleeping apartments.

The following facts appear to explain this: the blood is the most strongly alkaline between the small hours of the morning and 9 A. M., when it reaches its greatest alkalinity. The more alkaline the blood the more freely soluble is the uric acid. Therefore, in the morning hours the blood is the most heavily charged with this irritant, and during these hours patients suffer the most from angina pectoris, migraine, asthma, hay-fever, and other functional nervous disorders.

The blood is the most acid during the hours of bodily activity, and it reaches its maximum of activity about midnight. During this time there is only a small secretion of uric acid, and the amount circulating in the blood is minute. As the blood begins to increase in alkalinity in the morning it dissolves the uric acid out of the more alkaline tissues in which it has been stored—the liver, spleen, cartilages, joints and fibrous tissues—and with the increasing alkalinity and solvent properties of the blood it becomes rich in uric acid, until it produces the drowsiness, heaviness, or other nervous phenomena peculiar to any given case.

The palliative treatment for the uric acidemia consists in promptly freeing the blood of it by the use of an acid. I have used dilute sulphuric acid in doses of twenty or thirty drops in an abundance of water, but on account of the griping pains and its relaxing effect on the bowels it was necessary to abandon its use. I found the Horsford acid phosphate an excellent substitute. I used teaspoonful doses of this without any ill effects, and with the result of giving complete immunity from suffering. One or two teaspoonfuls in a glass of water at bedtime and on first awakening in the morning were sufficient to break up the habit entirely. Bence Jones claims that citric acid clears blood of uric acid. I have made it a point to have the morning dose well diluted with water, for the purpose of starting the perspiration; for I have observed that as soon as a patient has sneezed violently enough to induce free sweating, the symptoms decreased or disappeared. The perspiration eliminates uric acid, and helps to clear the blood.

A copious draught of hot, strong coffee, taken on first awakening in the morning, prevents attacks in some cases at least. It quickens the circulation, starts the perspiration, increases the urine, stimulates the nervous centers, fortifies the power of resistance, and produces a sense of exhilaration and well-being. I have known this simple remedy to break up a series of morning attacks and to maintain freedom from them. If the over-wrought nerves are saved this morning seizure, they are far less likely to succumb to casual irritants during the day.

In very obstinate cases it may be necessary to resort to more potent remedies. There is one that has proved in my hands uniformly successful in giving relief, especially when given at the onset of the attack of hay-fever or coryza. Like the acid, it is for temporary use only. I have employed it for the past fifteen years or more, and published it repeatedly; but in this case it is, like old wine, the better for age. I refer to a combination of morphia and atropia, in the proportion of one part of atropia to fifty of morphia. The usual adult dose is from $\frac{1}{16}$ to $\frac{1}{8}$ grain of the mixture, according to the severity of the attack. It may be repeated in an hour or two if the first dose does not entirely relieve sneezing, hydrorrhea and stenosis. I have never known it to fail in stopping an attack when properly adapted to the case. No person has ever acquired the drug habit through my prescribing it. I never write a prescription for it, nor allow a patient to know the composition of the remedy — not for mercenary purposes, but in order to obviate the possibility of being responsible for the drug habit. The morphia clears the blood of uric acid, diminishes the nervous irritability, suppresses hypersecretion from the muciparous glands, and stimulates the circulation and activity of the nervous centers; while the atropia elevates the tone of the blood vessels, quickens the pulse, decreases all the secretions except the urine, sustains bodily temperature, stimulates the respiratory center, counteracts the constipating effect of the morphia, and acts as an antispasmodic.

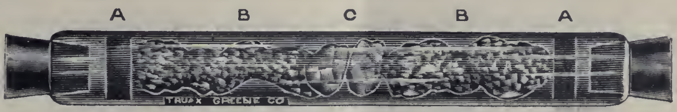

FIGURE 1. Camenthol Inhaler.

The camenthol inhaler (Fig. 1) has afforded hay-fever sufferers more relief than any other pocket inhaler with which I am familiar. It is more effective than menthol alone, and does not become irritating, as menthol crystals do after considerable use.

All patients seem to derive much benefit from the home treatment with a mild spray of camphor-menthol in lavoline. It is best to begin with a one-per centum solution, and gradually increase to the three-percentum. This preparation cleanses, covers and protects the mucous membrane. It contracts the capillary blood vessels, reduces swelling, arrests sneezing and irritation, checks excessive discharges, and corrects perverted secretions. Much comfort is afforded by the employment of this spray, at bedtime especially. Even the ten-per-centum solution can be used without ill effects by projecting the finest kind of a nebula by means of the hand dilator. I have seen a moment's treatment of this kind instantly stop violent sneezing and a profuse watery discharge.

The curative treatment should begin before the season of attacks. I am of the opinion that an excess of uric acid in the system is not due alone to continued retention and storage of the small normal overflow by the renal vein, but to an increased formation also. It follows then that it is necessary to reduce as much as possible the use of those foods that increase the actual formation of uric acid, such as meats, sweets, wines, beer, etc., and limit the diet largely to fruits, vegetables, milk, fats, etc. A diet of milk, with occasional very small quantities of egg and fish, with no other animal food, will prevent suffering from sick headache entirely, without medicinal treatment. With this diet the natural ratio between uric acid and urea — 1 to 33 — is maintained. Haig claims that by a uric-acid-producing diet one can store up in the body several ounces of uric acid in a few years, or by a correct diet not as many grains. He has been on such a diet over eight years, with almost never a headache. By eating meat and drinking wine two or three days in any single week he is sure to bring on the migraine.

It is a veritable hardship for some patients to be altogether deprived of meat, especially beef. They hunger for it like a toper for his grog. These people can be allowed nuts instead, for they take the place of beef to a large extent. The difficulty experienced in this substitute is that nuts are digested with difficulty unless very finely masticated. Even then they may cause gastric distress and flatulence. I have found an excellent preparation of nuts in bromose, which contains about the following percentages of these ingredients: maltose (digested starch), 21; nut fat (perfectly emulsified), 24; vegetable albumin, 19; dextrin and soluble starch, 17; salts, 2; water, 15. This furnishes the nutritive qualities of beef, and the nut oil provides the equivalent of butter. It is predigested and sterilized, and is practically bread, butter and meat combined.

Exercise aids in the excretion of uric acid, although there may be an actual increase in the amount of acid. A proportionately larger amount is eliminated.

A course of salicylate, salicin, lithium, etc., will remove the excess of uric acid. If an alkali is given it is likely to produce uricacidemia and precipitate an attack of the trouble we are endeavoring to prevent. For an attack, then, a dose of acid should be given to free the blood of uric acid; then the salicylate of sodium should be given for two or three days or longer to sweep it out of the body; but the salicylate should not be given during the attack, for it may aggravate the symptoms. For a month or two preceding the regular season of attacks, from two to six grains of the salicylate should be given every day or two, in order to get and keep the amount of acid in the body down to the normal amount. Instead of the salicylate, from six to twelve grains of lithium may be taken in very copious draughts of water two or three times a day. The carbonate powder is disagreeable, but the effervescent tablets of citrate of lithia are quite palatable when dissolved in an abundance of water. Each tablet contains three grains. After giving a fair trial of the various preparations, I have found Warner's tablets the most satisfactory. These are far superior to the so-called lithia waters. The claims made for some of these waters are somewhat amusing, since in order to get an ordinary dose of lithia one would have to drink 6,000 gallons. A long use of the lithia tablets seems to produce no ill effect; and this is fortunate for those who cannot take the sodium salicylate on account of its deleterious influence upon the ears.

This treatment, combined with proper diet, should be successful, provided that there is no organic disease of the structures, central or peripheral. Any organic disease—hypertrophy, polypus, etc.—must receive the necessary surgical treatment. A vitiated condition of the blood or a depressed condition of the nervous system must be corrected. Excesses of every nature must be avoided. All the organs of the system should receive such attention as to secure the harmonious co-ordination of their functions; for this treatment is directed against uricacidemia only as a cause of suffering, but it should not be forgotten that there are other causes that may operate to produce attacks, just as in the case of spasmodic asthma arising from bronchitis, irritating gases, and other excitants.

For the sake of convenience and accuracy of dosage I have had small tablets made. each containing morphia, $\frac{1}{12}$ grain; atropia, $\frac{1}{600}$ grain; and caffein, $\frac{1}{6}$ grain. They are known under the name of coryza tablets, for they are as efficacious in the early stage of acute rhinitis as in hay-fever.

When the pharynx, larynx and bronchi are involved I find the following tablets afford relief. They, as well as the others, are made for me by Truax, Greene & Co. Each throat tablet contains:

℞	Ammonii chloridi	gr. ii.
	Tincturæ opii camphoratæ,	
	Syrupi scillæ compositi,	
	Syrupi tolutani	āā ♏ v.
	Extracti glycyrrhizæ	q. s.
M.		

One or two of these cough tablets may be allowed to dissolve slowly in the mouth every hour until the irritation subsides.

I have not referred to hay-fever resorts, for the treatment outlined dispenses with the necessity for them.

Columbia Memorial Building.

LINGUAL TONSILS.

BY EDWIN R. LEWIS, A.M., M.D., INDIANAPOLIS, IND.

It is not many years since the term tonsil was limited in its application to the two bodies which occupy the recess formed — one on each side of the fauces — between the anterior and posterior palatine arches. No other tonsils were known. The term was not indefinite; and yet Quain, in describing the tonsils, uses these words: "Like those already described as occurring at the back of the upper surface of the tongue." In other words, we find the lingual tonsils recognized as a fact, indefinitely to be sure, but in a way to prepare for its recognition ultimately.

Aggregations of lymphoid tissue and lymphoid follicles similar to the old well-known tonsils came to be recognized as foci of disease along the lateral folds of the pharynx, behind the posterior pillars of the fauces, on the back part of the soft palate and uvula, around the mouth of the Eustachian tube, and in the vault of the pharynx. With the recognition of such facts the term tonsil became general in its meaning, until it included many aggregations of tissue in different parts of the fauces, each of which was specifically named according to its locality. In this way the old, familiar tonsils are now known as the faucial tonsils, and other tonsils are distinguished as palatal, tubal, pharyngeal and lingual. Nor is this a mere technicality. The different tonsils are facts to be recognized in health and in disease.

It is no exaggeration to say of the lingual tonsil that it rivals, if it does not equal, the faucial in the variety of appearances which it presents upon examination. As a consequence, it is not at all surprising that it is the source of many annoyances and discomforts. Symptoms which were ever considered to be of obscure and unknown origin are now referred to the lingual tonsil.

Prominent among these symptoms are coughs of various characters, varying from a slight but constant effort to clear the throat to a serious and distressing paroxysmal cough, accompanied at times with a hemorrhage which is very alarming to patient and friends.

There are also many patients who complain of a "fullness" or "tightness" of the throat, which varies from a slight annoyance to a sensation which seems to threaten strangulation or suffocation, and is suggestive of hysteria. The origin frequently is found to be mainly in the lingual tonsil. There is another class of patients, chiefly singers or speakers, who complain of a dry or rough or "scratchy" feeling in the throat, in whom also the lingual tonsil calls for treatment. The fact is (and it is one that ought to be recognized) that the derangements of the lingual tonsil are not exceptional, but very common. The symptoms which call for an examination of the lingual tonsil are of every-day occurrence—cough, "fullness" or "tightness" of the throat, dryness of the throat, and a rough or scratchy feeling. These symptoms may all be present, or a few of them only; when all are present the location of the cause is comparatively easy; when only one or two exist the cause may remain unrecognized for a while. It is important, therefore, that the lingual tonsil be examined very carefully in such cases. In fact, the routine examination of the lingual tonsil, if the "routine" be intelligently adopted, gives useful information in all cases; for negative information is frequently and positive information always helpful in the diagnosis of any case. The examination is easily made, and every general practitioner ought to be acquainted with its simple technique.

With the tongue properly protruded, and its tip gently but firmly held by physician or patient, the hand mirror (of a large size) can be so introduced as to bring into full view the image of the base of the tongue and of the entire space between it and the epiglottis. It is not an exaggeration to say that the revelation made of the condition of the lymphoid tissue in that space will more than surprise one not accustomed to make such examinations. The lymphoid tissue and follicles may be found swollen and hypertrophic on one or on both sides, just as one faucial tonsil only may be hypertrophied, or both. The surface of the hypertrophied tissue may be smooth and shining, or it may resemble a cauliflower in its nodulated appearance. The masses may appear pale or congested. It is not at all uncommon to see enlarged and tortuous veins coursing over the surface and between the nodules, from which blood escapes at times in quantity sufficient to occasion serious alarm to one not cognizant of its origin. The top of the epiglottis is sometimes seen to be caught among the nodular masses, and an explanation thereby given of the cause of a very irritating cough.

Nor is it unusual to find this satisfactory explanation in cases where the cough was so constant and violent as to be suggestive of serious pulmonary or laryngeal disease.

Enlarged and tortuous veins coursing among the nodules reveal the origin, too, of hemorrhages which had seemed to confirm the serious diagnosis.

It is equally common to find the lymphoid tissue very much hypertrophied deep down in the space between the base of the tongue and epiglottis, and accounting for the full feeling complained of in the throat. It has been my experience to find such a condition complicating several cases of goitre, where the goitre was but slight, and yet seemed to be the cause of distressing tightness in the throat. The distress was all relieved by a proper treatment of the lingual tonsil. This happy result cannot be expected in all cases, but it warrants a careful examination of the lingual tonsil when the goitre seems to be the cause of the trouble and yet is not sufficiently large to account for all the trouble.

In nervous and hysterical patients the distressing feeling of fullness in the throat, which simulates globus hystericus, may be caused by hypertrophied lingual tonsils.

A great deal could be easily written about these various symptoms which arise in connection with the lingual tonsil, and that, too, without exaggerating the case at all, but it ought not to be demanded. Enough is known, and has been here referred to, to make routine examination of the lingual tonsil called for as a part of the necessary examination in all cases of the kind referred to.

It is evident from this brief and hasty statement respecting the lingual tonsil, and the various appearances which it presents upon examination that the treatment is determined individually. There is no routine method to be adopted for all cases. In many cases the examination reveals one or more distinct enlargements that make the decision an easy one, whether snare or cautery be used. In other cases, where the hypertrophy is more diffused, the decision is not so easily made. The resort to a tonsillotome is not at all so warranted as in the case of enlarged faucial tonsils. It is well recognized that hemorrhage is not to be so much expected and dreaded from the amputation of faucial tonsils in children as in adults.

But enlarged lingual tonsils are not found in children, unless exceptionally. Nor are such enlargements common in young persons. They are generally met with in the middle-aged, and they generally complicate constipation or deranged menstruation or a rheumatic diathesis. This fact makes the subject of constitutional treatment an important one in dealing with diseased lingual tonsils. It also makes the subject of surgical interference an important one, from the fact that there is more danger from hemorrhage than in the case of operating upon faucial tonsils in the young. So far as methods of removal are concerned then, each case must be determined upon by itself and according to its individual conditions. A few careful examinations, supplemented by suitable local applications and constitutional treatment, will, as a rule, lead one to a determination as to the best operative methods to be adopted in each case.

There is a local treatment, however, that is beneficial in all, markedly so in many cases. I refer to iodine. My attention was first called to the benefits of this remedy by Seiler, who recommends it in his treatment of what he called "hypertrophic catarrh" (a name that is not to be commended from any standpoint). I had found it of help in the nasal passages, and from that came to use it in the post-nasal space. From the benefits derived in its application to the lymphoid aggregations there I finally came to use it on the lingual tonsil. It is a remedy to be highly esteemed. I make use of various solutions of iodine in glycerine (by means of potassium iodide), 10 grains to the ounce, 15, 20, 30, and sometimes use the tincture. It is important to guard against permitting any of the solution to run down or drop into the larynx, for it produces a distressing spasm of the glottis. The applicator devised by Elsberg is very good for use is making the application. A piece of absorbent cotton, firmly held in such an application and saturated with the solution desired, is thoroughly applied to the base of the tongue and the whole space between it and the epiglottis (the tongue being protruded and the tip held), the application being made daily, or less frequently, as may seem best in the individual cases. Rarely does the tonsil fail to respond favorably to this treatment; and this, with suitable constitutional treatment, is all that is called for in many cases. Where such completely favorable results are not obtained, and an operation must finally be resorted to, the iodine nevertheless prepares the way, by removing much of the congestion and reducing some of the enlargement, so that the part to be operated upon is more distinctly marked out, and better results can be hoped for.

131 North Meridian Street.

THE CLINICAL INVESTIGATION OF EAR DISEASES.*

BY J. DUNDAS GRANT, M.D , F.R.C.S., LONDON.

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The existence of ear disease is suggested by the patient complaining of one or more of the CARDINAL SYMPTOMS:

(*a*) Defect of hearing.
(*b*) Pain in or around the ear.
(*c*) Discharge from the ear.
(*d*) Tinnitus (singing, beating, rushing); and
(*e*) Vertigo; or
(*f*) Visible alterations in the external parts.

As will be seen later on, *most of these symptoms may arise from extra-aural causes;* thus defect of hearing may be due to cerebral lesions; pain in the ear is frequently reflected from diseased teeth, tongue or throat; tinnitus aurium may be due to increased arterial tension, anemia, toxic or other general causes, and vertigo may originate from gastric, renal, and other disturbances. On the other hand, *constitutional disturbance of even the most profound kind may arise from unobserved ear disease*, notably some obscure cases of septicemia, in which, as Sir Dyce Duckworth has pointed out, it would be as criminal to omit to examine the ear as it would be to fail to search for a hernia in a case of obstruction of the bowels.

Before examining more fully it will be found advisable to enquire as to the *mode of onset*—sudden, acute, with or without pain, insidious or gradual; and as to the *duration* of the symptoms and their order of occurrence. The *supposed cause*—e. g.: injury, bathing, cold, throat affection, exanthemata, syphilis, gout, rheumatism, quinism, salicylism, exposure to noises, etc.—should be directly and indirectly investigated, due allowance being made for intentional and unintentional error on the patient's part. It may be here noted that insidiousness of onset and indefiniteness of cause (with early occurrence of tinnitus) are very characteristic of the sclerotic form of middle-ear catarrh.

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*Author's revision from *Medical Annual*, London.

(*a*) IMPAIRMENT OF HEARING POWER

may arise from disease or obstruction in the external meatus, in the tympanic membrane or middle ear (including the Eustachian tube), in the labyrinth, in the auditory nerve or nuclei, or in the auditory cortical centre and strands leading to it. When the disease is in the external or middle ear the impairment of function is termed "obstructive deafness," and when in the labyrinthine or intracranial distribution of the auditory nerve, "nerve deafness." The hearing is usually tested by means of the *voice*, the *watch*, the *tuning-fork*, and *Galton's whistle.* Professor Politzer uses as a source of sound of constant intensity an instrument termed the *acoumeter.*

The *hearing for the voice* is best indicated by the distance at which the patient can hear *whispered words*, and in cases of extreme deafness, *ordinary*, *loud* or *shouting* conversation. This practical test should never be omitted. It will be found, as a rule, that in cases of obstructive deafness the hearing for the watch is relatively less affected than hearing for the voice, whereas patients with nerve deafness may hear the voice fairly well when the watch-tick is almost entirely unperceived.

The *watch-tick* is a useful means of measuring the progress of the case. The distance at which the watch in use can be heard by a normal person should be ascertained, and this distance in inches, say 60, be written down as the denominator of a fraction, the numerator place of which is filled by the distance at which the patient hears it.

Thus, the patient hears such a watch at 5 inches with the right and 2 with the left.. $\left.\right\} \frac{5-2}{60}$

The patient hears it only when in contact with the right, not at all with the left.. $\left.\right\} \frac{\text{c–co}}{60}$

The test must be made by placing the watch beyond the hearing distance and bringing it nearer till the patient hears it.

As thus used the watch is a test of the perception of sounds conveyed by the air and by the tympanic apparatus—"air-conduction." It may, however, be used as a very delicate test for the perception of sounds conveyed through the bones of the head directly to the nerve —"bone-conduction," being placed in contact with the temple.

The *tuning-fork* is held vibrating opposite the meatus for "air-conduction," and on the mastoid for "bone-conduction." A very practical form of instrument is the tuning-fork (see cut), tuned to the middle C, as corresponding fairly to the pitch of the human voice in speaking. It has a button at the extremity of the shank which makes it comfortable to the head, and a roughened expansion midway in the shaft by which it can be conveniently held. To test "air-conduction" it is set vibrating by a stroke on a soft body—the observer's knee—and is then held opposite the patient's meatus, who is to "say when

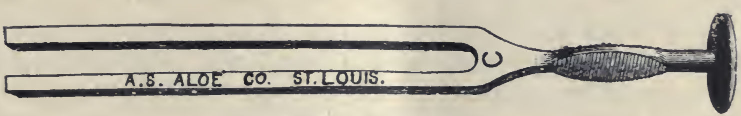

FIGURE 1.—Tuning-Fork.

it stops." At this moment the observer holds it opposite his own meatus and notes how many seconds longer he hears it. This is written down as a negative quantity. To test the "bone-conduction" the observer places the button of the vibrating fork on the patient's mastoid till it "stops," when he applies it to his own mastoid. If he hears it longer he notes the number of seconds as a negative quantity indicating the amount of loss of bone-conduction—degree of nerve deafness. On the other hand, if the observer does not hear it longer than the patient, bone-conduction may be normal $(\underline{+})$ or increased $(+)$, the latter occurring usually in obstructive deafness. He, therefore, sets the vibrating fork on his own mastoid, and when he ceases to hear it applies it to the mastoid of the patient and counts how many seconds, if any, the patient hears it longer than he did himself. These observations may be conveniently noted in a formula thus:

The patient hears the tuning-fork at the meatus 10 seconds less than the observer; on the mastoid 10 seconds longer than the observer } T-F. $\dfrac{\text{meatus}-10}{\text{mastoid}+10}$

If the patient does not hear it at all, either at the meatus or on the mastoid.......................... } T-F. $\dfrac{\text{meatus}-\infty}{\text{mastoid}-\infty}$

Relation of Air to Bone-Conduction—Rinné's Experiment.—If the conducting apparatus is normal in any individual, a tuning-fork placed on the mastoid and allowed to die away till no longer heard, is again heard if held opposite the meatus. If the conducting apparatus is affected to any considerable extent, the tuning-fork when allowed to die away on the mastoid is no longer heard when held opposite the meatus. In the former case Rinné's test is said to be positive (Rinné+), indicating, as a rule, absence of any great degree of middle ear disease; in the latter negative (Rinné —), indicating disease of the conducting apparatus. It is to be noted:

(1) That it is only with a *low pitched fork*—middle C, or preferably one still lower—that a "positive" result excludes disease of the conducting apparatus.

(2) That in *old persons* bone-conduction is shortened more than air-

condition, and, therefore, a "positive Rinné" is quite compatible with the presence of tympanic disease.

(3) That in cases of increased "fatigability" of the auditory nerve centres, bone-conduction may appear less than it really is, so when this is suspected the fork should be replaced on the mastoid after being removed for an instant, and if reheard, again and again till no longer reheard, before being held opposite the meatus.

(4) That in unilateral obstructive deafness Rinné may appear "negative" in the normal ear from the vibrations being conveyed through the bones to the obstructed ear in which bone-conduction is increased. Similarly, in unilateral obstructive deafness Rinné may appear negative in the normal ear from the vibrations being conveyed through the bones to the obstructed ear in which bone-conduction is increased.

Graduated Rinné's Test.—It is often advisable to apply Rinné's test by means of a series of tuning forks, one an octave below the middle C, one the middle C, and three others, one, two, and three octaves higher, (C256, $C^1$512, $C^2$1024, $C^3$2048, $C^4$4006, double vibrations per second). In the slighter cases of disease of the conducting organs, the test is negative for the lower forks only, but in the more advanced ones for the highest as well, calling for a more unfavorable prognosis, especially if the test has given this result after inflation of the tympanum, by one of the methods to be subsequently described. If Rinné be positive throughout, the conducting apparatus is relatively healthy, and any considerable degree of deafness must be due to other causes, presumably nervous.

Weber's Test.—If a vibrating tuning-fork placed on the vertex is heard better in the worse ear, the affection of that ear is not of the nerve but of the conducting apparatus, and Weber's test is said to be positive. If it is better heard in the better ear, Weber's test is negative.

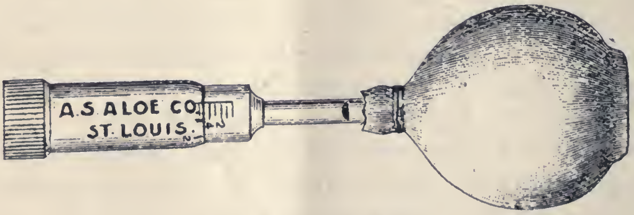

FIGURE 2.—Galton's Whistle.

Galton's Whistle is a minute metal instrument, giving a very high-pitched note, which can be raised or lowered by means of a screw piston. The degree to which the piston is screwed in can be read off by means of the graduated marks on the instrument, indicating in millimètres and tenths of millimètres the length of sounding tube. By its means the highest note which is heard by the patient (upward limit of audition) can be registered. In using it, it is well to hold it about six inches from the patient's ear, and to press the ball very softly, especially for the highest notes, desiring the patient to say when he ceases or commences to hear a whistle or chirp, and not the mere noise of the rushing of air. For example:—

Galton R. 4·3 L. 3·9

With advancing years the capacity for hearing high-pitched sounds diminishes and the highest limit of audition descends, requiring a greater length of tube in Galton's Whistle. The loss of audition for the highest tones is characteristic of nerve-deafness, due to disease of the cochlea, and in all suspected cases Galton's Whistle should be employed.

Hearing power for middle and low tones may be tested by means of the tuning-forks above mentioned with the advisable addition of one of 64 d. v. and one of 32 d. v. In general, loss or diminution of hearing for the low tones is characteristic of obstructive deafness, and for the middle tones, functional deafness or disease of the intracranial portion of the auditory nerve or nerve centres.

"*Hearing Better in a Noise*"—*Paracousis Willissii.*—When investigating the hearing-power of a patient, especially with bilateral defect of hearing, enquiry should always be made as to whether hearing is better in the midst of a noise, as, for instance, whether conversation is better heard in a train or omnibus or in the midst of a rumble or clatter. This is present in a large number of cases, and these are almost without exception cases of middle-ear disease (Roosa). Patients with nerve-deafness, especially when this is caused by exposure to noises—"boiler-makers' deafness" usually hear worse in a noise. Hence the symptom is of some diagnostic importance.

Functional Symptoms Differentiating Obstructive from Nerve-Deafness.—From our examination so far we may suspect nerve-deafness if:—

(1) There is diminution of bone-conduction;
(2) There is loss of hearing for very high-pitched tones;
(3) There is decrease of hearing-power in the midst of noise.
(4) Hearing for conversation is relatively better than for the watch.
(5) Rinné positive; Weber negative.

Obstructive Deafness if:—

(1) There is loss of air-conduction only, with negative Rinné;
(2) There is better hearing for very high than for very low tones;

(3) There is increased hearing in the midst of a noise.
(4) Hearing for conversation is relatively worse than for the watch.
(5) Rinné negative; Weber positive.

(*b*) PAIN,

or earache, of local origin is the most prominent symptom in acute inflammatory affections, whether of the external or middle ear, as also in the exacerbations common in chronic inflammation, as when reinfection of quiescent foci takes place and purulent discharges are pent up, or there is extension of caries or growth of cholesteatoma. Acute inflammation of the meatus or middle-ear is characterized by extreme pain, accompanied by impairment of the hearing function and febrile disturbance. The pain usually radiates up the side of the head. There often occurs, however, a *reflex otalgia* due to disease of the teeth, and, less frequently, to disease of the throat or tongue, but is then not likely to be mistaken for aural disease. There is then an absence of the other cardinal symptoms. If the pain is worst in the *mastoid* region, disease of that part must be suspected.

(*c*) IF THERE IS DISCHARGE,

its nature, quantity, and particularly its smell should be noted. The most usual discharge is one containing pus. If it is considerable in quantity, or contains mucus, it comes from the middle-ear. The inter-mixture with blood usually indicates the presence of granulations, but if a copious hemorrhage occurs late in a case of chronic suppurative otitis erosion of a blood-vessel is to be suspected. A sticky oozing is often present in eczema of the meatus, a serous and subsequently purulent discharge of slight abundance in external otitis. *If there is no discharge* it is necessary to enquire whether there has been a discharge at a former period, indicating a former suppurative otitis which may have left a permanent perforation of the membrane, or a cicatrix at the site of a healed perforation, or adhesions hampering the movements of the intra-tympanic structures. The smell of the discharge is of comparatively little diagnostic value at the moment, but if there is fetor it should be noted, because if under simple antiseptic treatment the offensive smell speedily disappears the prognosis is much more favorable than if it persists (Dench). Such persistence is probably due to disease of bone or retention of putrefactive material in the antrum or mastoid cells. The duration of the discharge and its mode of onset are of great significance. A recent sudden discharge, preceded by severe pain, indicates an acute inflammation of the middle-ear, but the occurrence of a discharge without previous pain should lead to investigation as to the presence of a tuberculous disposition. A suppuration may be of long-standing owing to neglect, to the presence of granulations, polypi, disease of the ossicles or temporal bone (simple, tubercular, syphilitic or malignant), involvement of the mastoid antrum or cells (epidermic accumulations, etc.), naso-pharyngeal disease or constitutional dyscrasia. The possible sequelæ of chronic, rarely acute, suppurative disease—meningitis, cerebral or cerebellar abscess, phlebitis of the lateral sinus and pyemia—must not be overlooked.

(*d*) TINNITUS AURIUM,

or "Noises in the Head," is the next symptom to enquire about. It is less commonly complained of by children than by adults, and its *varieties* are as numerous as patients' powers of description can make them. They may be complained of as humming, hissing, sound of escaping gas, rushing water, "sea shell," or sea waves, explosions, hammering, music, undistinguishable voices and distinguishable voices. They may be practically classified as follows:—

<table>
<tr><th colspan="3">(A) Pulsating.</th></tr>
<tr><td colspan="2">Arterial congestion in region of the labyrinth or middle ear.</td><td>Relieved by compression of the carotid or vertebral arteries.</td></tr>
<tr><th colspan="3">(B) Continuous.</th></tr>
<tr><td>(<i>a</i>) Simple—
Hissing, singing, high-pitched sounds, sea-shell, etc.</td><td>Increased tension in the middle ear, irritating auditory nerve.</td><td>Relieved by inflation of tympanum.</td></tr>
<tr><td>Deep humming.</td><td>Anemia.</td><td>Relieved by lying down, or by alcohol, or food.</td></tr>
<tr><td></td><td>Aneurism.</td><td>Audible on auscultation. Relieved by presssure on arteries.</td></tr>
<tr><td>Rushing.</td><td>Venous congestion.</td><td>Worse on lying down. Relieved by purgation.</td></tr>
<tr><td>(<i>b</i>) Elaborated—
Bells, music, voices, etc.</td><td colspan="2">Mental phenomena, sometimes induced by influence of aural disease on an excitable brain.</td></tr>
</table>

Tinnitus is more often pulsating than patients admit. This may be tested by directing the patient to listen to the sound while one feels the pulse and beats time to it with the other hand. Many patients will then find that the tinnitus keeps time with the pulse, and the *effect of compressing carotid and vertebral arteries* should next be tested. If pressure on the common carotid in the neck checks or diminishes the pulsation, the congestion is in the middle or external ear. If pressure on the vertebral arteries does so, it is in the internal ear supplied by the internal auditory artery, a branch of the basilar, which is formed by the junction of the two vertebrals.

Compression of the vertebrals is exercised by means of the thumb and middle finger of the right hand in the hollows behind and slightly below the mastoids, while counter-pressure is made with the palm of the left hand on the patient's forehead. The arteries are thus compressed in the suboccipital triangles as they pass round the lateral masses of the atlas.

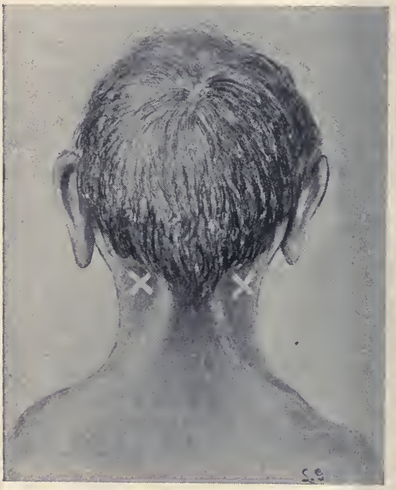

FIGURE 3. The spots where the vertebrals can be compressed, marked X.

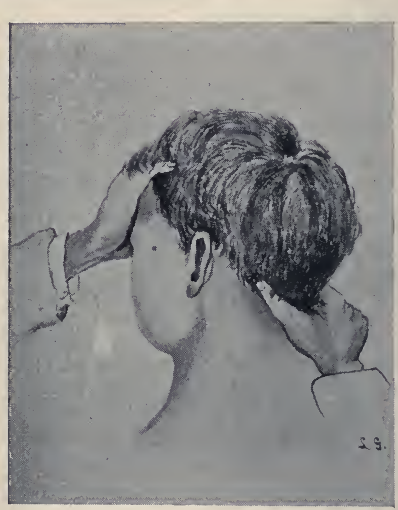

FIGURE 4. Compressing the vertebrals.

The characters of the other sounds are practically explained in the table. It is important to remember that there are a number—if only a relatively small one—of cases of *tinnitus, independent of aural diseases*, which have to be excluded by means of tests for hearing, objective examination, history of the case, etc. *The stage in the disease at which tinnitus commences* is important, especially in cases of middle-ear catarrh, as the early occurrence of this symptom is characteristic of the intractable sclerotic variety.

(*e*) VERTIGO

arises from many causes besides ear disease. The *direction* of the tendency to fall should be noted. As a rule it is away from the affected ear. *Acuteness or suddenness of its first occurrence* should lead to enquiries as to the presence of "Meniere's symptoms"—sudden vertigo of almost apoplectiform severity with disturbance of hearing, tinnitus aurium, and usually vomiting. These, when associated with loss of bone conduction and unpreceded by dullness of hearing, or other signs of ear-disease, justify a diagnosis of "Meniere's disease." More often they are secondary to middle-ear disease, and are due to sudden increase of pressure on the labyrinthine contents, as by a congested granulation pressing on the stapes. Similar effects may follow the touch of a probe or the injection of fluids, especially cold water.

Other forms of vertigo must be excluded. Thus:—
Ocular vertigo relieved by closure of the eye.
Gastric vertigo due to obvious digestive disturbance.
Renal vertigo an early symptom of cirrhotic kidney.
Laryngeal vertigo induced by a coughing effort.
$\left.\begin{array}{l}\text{Tabetic unsteadiness}\\ \text{Cerebellar titubation}\end{array}\right\}$ with sufficiently distinctive symptoms.
$\left.\begin{array}{l}\text{Anemia}\\ \text{Congestion}\end{array}\right\}$ of the brain.
Epilepsy, migraine, etc.

(*f*) VISIBLE ALTERATIONS

Will be considered in our next article.

EXTENSIVE NECROSIS OF THE PETRO-MASTOID FOLLOWING MIDDLE-EAR SUPPURATION.

BY M. D. LEDERMAN, M.D.

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University Medical College Dispensary; Assistant Surgeon, Manhattan
Eye and Ear Hospital, etc., New York.

It is not unusual to meet with marked softening and caries of the mastoid process in children, when this portion of the temporal bone has become secondarily affected from a suppurative otitis media. At this period of life, the bony structure does not offer much resistance to an infectious invasion, and pus readily finds its way to the surface. In the adult, however, the density of the cortical layer of the mastoid retards the progress of the pathological process in that direction, and consequently less resisting tissues become attacked, and extensive destruction may take place, without marked external manifestations The appearance of general symptoms will establish the fact that a septic process is active in the economy.

The middle-ear cavity being peculiarly adapted for the propagation of the numerous pathogenic bacteria, and its location being in such close proximity to vital parts, we should never hesitate to promptly employ operative measures. We must not lose valuable time in deliberating whether the mastoid should be operated upon; for if symptoms exist which cannot be controlled by palliative measures, it is our duty to open the mastoid and carefully explore it for the *agens morbi*. Under antiseptic precautions this operation need never be feared; but I regret to state that we are inclined to delay this procedure. In cases of middle-ear suppuration, complicated by mastoid involvement, with existing cerebral symptoms, it is not imperative to attack the mastoid at once, as the intra-cranial pressure is the dangerous symptom, and should be relieved promptly if possible.

Through the kindness of Dr. David Webster, who referred the case to me, I am able to report the following history:

Phœbe B., sixty-two years old, came under observation April 16, 1895. She was a deaf-mute, with fairly good health. For a year she had been troubled with soreness in the right ear. There was at first a scanty discharge, followed by some pain. These symptoms persisted with more or less severity up to the date of examination. Three months ago paralysis of the right side of the face occurred suddenly.

April 16, 1895.—*Condition at time of examination by Dr. Webster.*—Right external canal filled with polypi, so that no view of the deeper structures could be obtained. There was a profuse and very offensive purulent discharge from right canal, with marked pain around the ear and on top of head. Some tenderness around auricle, especially in front. Temperature was normal. Urine examination proved negative. Dr. Webster thoroughly curetted external canal and tympanum, removing considerable polypi. Parts were cleansed with bichloride solution (1:5000), and packed with iodoform gauze.

April 18th.—Wound dressed. Very little reaction. Temperature normal. Discharge profuse, but less offensive. Cleansed with bichloride solution and peroxide of hydrogen twice daily. Canal packed with iodoform gauze.

April 21st.—Some improvement. Discharge profuse, but much less offensive.

April 25th.—Condition unchanged. Considerable bleeding when dressing is changed. Boric acid solution substituted for bichloride.

April 26th.—Treatment was continued, but discharge was very profuse. After cleansing with boric acid solution, the following powder was dusted into canal twice daily:

℞ Acid boric,
Alum aceto-tartrate.................................āā, ʒij.
Lycopodium.................................℥iv.

April 27th.—Discharge very offensive, and greater in quantity.

April 28th.—Number of polypi removed with curette. Some necrosed bone found posteriorly. Less discharge, but still very offensive. Some pain.

April 29th.—No reaction from previous manipulation. Discharge quite profuse, but less offensive. Marked tendency to bleed.

April 30th.—Tenderness on pressure over mastoid, with some swelling and redness. Leeches applied to mastoid.

May 6th.—As tenderness over mastoid still persisted, the case was turned over to me for operation. Temperature for the last few days remained around 101° F., but patient did not complain of chills. At examination I found the canal filled with pus and granulation tissue, which gave off an exceedingly offensive odor. Pressure over mastoid showed same to be very sore and boggy to the touch.

Under ether an extensive incision was made in the usual position, as I anticipated considerable destruction of the mastoid cells. Pus appeared immediately after the first incision, and flowed quite freely. A large amount of dead bone and granulation tissue was removed by means of the curette. On probing, the tip of the mastoid was found necrosed, and same was removed, with the degenerated soft tissues found in the field of operation. In clearing out the upper and posterior portion of the antrum and cells the finger encountered the dura mater, proving the extensive spread of the suppurative process. Further manipulation succeeded in merging the tympanic cavity and mastoid opening into one. The external canal and middle ear were thoroughly cleansed by means of curette and antiseptic douching. Though the opening in the mastoid was very large, in fact corresponding to the entire portion of this part of the temporal bone, the lateral sinus had not been opened. Almost three fingers could be introduced into the wound, which was packed with iodoform gauze.

May 7th.—Patient passed a comparatively good night. Some retching after the operation, which was rather prolonged. Temperature $99\frac{2}{5}$° F., mouth.

May 8th.—Temperature normal. Dressing removed, and some discharge from canal was observed. Wound otherwise clear. Packed as before, and dressed daily with hydrogen peroxide and bichloride solution.

May 9th.—Wound clear. No odor. No discharge. No rise in temperature. Slight pain in head.

May 10th.—Some slough on posterior wall of cavity, with more discharge and odor.

May 11th.—Slough was removed with forceps. Ordered parts to be cleansed with Labarraque's solution.

May 13th.—Wound normal. No odor.

May 15th.—Granulations springing up rapidly near surface. These were cauterized, and wound dressed as before.

May 18th.—Condition improving. Wound clean and rapidly filling.

May 20th.—Surface granulations again cauterized.

May 25th.—Small sinus found on inner wall of cavity filled with pus and debris; same was curetted and packed with gauze. Temperature $99\frac{2}{5}$° F.

May 26th.—Sinus cleansed; not so much discharge, and opening larger. Remainder of wound healthy and granulating slowly.

May 30th.—Improving. Wound clear and sinus healing.

June 9th.—Odor more offensive, and wound cleansed of unhealthy granulations.

June 11th.—Hemorrhage from mastoid through ear, nose, and mouth, saturating dressings. Wound cleansed and redressed, 7 P. M.

Severe hemorrhage in naso-pharynx. Posterior tamponing had to be resorted to by the house-surgeon, Dr. Thomson, to arrest same. Patient quite weak.

June 12th.—Bleeding again appeared, but was checked by firmly packing the mastoid opening with gauze. Inability to move the left leg and arm was noticed for a few days past. Marked depression resulted from the loss of blood, and the patient gradually weakened until she passed away ten days later.

REMARKS.

At the necropsy a probe was passed into the mastoid wound in a posterior direction for a distance of almost two inches, showing the remarkable loss of osseous tissue. Almost the entire mastoid process, together with a decided part of the petrous portion of the temporal bone, was destroyed by the necrotic process. Communication between the posterior and middle cerebral fossæ had been established through the upper portion of the wound. As the patient had been confined to the bed from the time of the operation until her death, no disturbance of equilibrium was observed, though the semi-circular canals were involved. The hemorrhage in the last days resulted from ulceration of the lateral and inferior petrosal sinuses. Her condition of mutism kept indicative symptoms hidden, though cerebral action itself was never impaired. That the necrotic destruction had been going on for some time previous to the external manifestation of the mastoid involvement, is shown by the marked facial paralysis early in the disease. During the illness no changes were observed in the optic nerves. Softening of the lower portion of the right temporo-sphenoidal lobe of the brain was found, accounting for the paralysis of the arm and leg on the opposite side.

128 E. 60th St.

POST-NASAL ADENOID HYPERTROPHY:

With Especial Reference to the Importance of its Early Recognition by the Family Physician.

BY J. E. SCHADLE, M.D., ST. PAUL, MINN.

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Post-nasal adenoid hypertrophy is a disease of the naso-pharynx, a cavity embodying important anatomical and physiological relations in the mechanism of respiration and audition. Communicating with the nose, throat and ears and contributing to their functioning powers, the abnormal naso-pharynx exercises morbid influences over these associated cavities, which impair their usefulness and not infrequently produce organic changes.

The disease is one peculiar to childhood. It prevails in all countries (Meyer). The physician who assists at the infant's birth and prescribes for it through its early life should especially be able to recognize this abnormal condition of the post-nasal space, for undoubtedly to adenoid vegetations are due many of the nervous and nutritive disturbances of the young.

Coming in contact almost daily with the disorder and observing how little consideration is given to it, I hope by a presentation of its practical aspects to interest the general practitioner and bring him into closer relationship with the affection.

During the past fifteen years nose and throat specialists have been the only contributors to the literature of the subject, and none will question the benefit humanity is deriving from their work along these lines. In recognition of this fact a forcible argument is furnished in the present movement among laryngologists to raise funds for the purpose of erecting a monument to the memory of Dr. Wilhelm Meyer, of Copenhagen, to whose investigations and teachings we are indebted for much of what is now known of the malady.

Post-nasal adenoid hypertrophy is not infrequently attended by serious and formidable consequences. Prominent among these is obstruction of the nose. Through respiratory interference deficient oxygenation of the blood results, establishing a process of carbon di-oxide poisoning, impairing nutrition and inducing anæmia—conditions from which recovery is sometimes protracted even after the function of nose-breathing has been fully restored.

The cause of chronic otorrhœa in the child in the majority of cases can be found in the existence of adenoid vegetations. Inflammatory states of the tissue brought on by exposure to temperature changes or to the exanthematous diseases, generally give rise to catarrhal disease of the middle ear, which may eventuate into a persistent otorrhœa or mastoid complication. They also prevent perfect ventilation of the drum. Defective hearing in the young sometimes wholly depends on this condition.

Laryngismus stridulus, or spasm of the larynx, an affection which suddenly manifests itself in the night, causing alarm and disturbing the child, is no doubt an effect of the occlusion of the nose, the larynx becoming hyperæmic, dry and irritable in consequence of the mouth-breathing.

Choreiform movements of the soft palate, I found, in a few cases coming under my observation, to have been a reflex phenomenon of the post-nasal vegetations.

Alterations of the voice and laryngeal, bronchial and nasal catarrhal inflammations may arise from the same source, and produce an infinite amount of annoyance. Atrophic rhinitis I believe is very often super-induced by the disease when the systemic conditions are favorable.

Thoracic deformity and imperfect pulmonary aeration are frequent damaging consequences. Wry-neck has been traceable in its reflex cause to adenoids. Nocturnal incontinence of urine is an occasional accompanying occurrence.

Not only the physical, but also the mental growth of a child is retarded. Instances where through the agency of inheritance the tuberculous or scrofulous taint is present, the consequences are serious and the struggle for existence difficult.

Children afflicted with adenoid vegetations and allowed to go on without obtaining relief, are certain to fall below that measure of health and strength to which they would else have attained. They grow up sickly and feeble, and the event is looked upon as a visitation of Providence. The severer forms will tell on their whole future existence—growth will be stunted; energy will be deficient; maturity will be less vigorous than it ought to have been; and success and happiness in life will be hindered. Their ultimate physical power and their efficiency as men and women will inevitably be more or less diminished by it.

Can all this consequent injury be obviated? It can, by early recognition and removal of the trouble.

Due either to ignorance, negligence or prejudice, very generally the family physician himself is responsible for the development of the disease whose effects we see are mischievous and far-reaching. To advise that the child will out-grow the difficulty is criminal, though it be known that after the period of adolescence atrophy of the growths may take place.

The lymphoid mass in a state of hypertrophy is also known as the pharyngeal or "third" tonsil, which in structure is not unlike that of the tonsils of the fauces. When microscopically examined, it is found to be a retiform network of connective tissue which is filled with lymph corpuscles. The growths are richly supplied with blood-vessels and are covered with a layer of ciliated epithelium, resembling more or less the mucous membrane from which they take their origin.

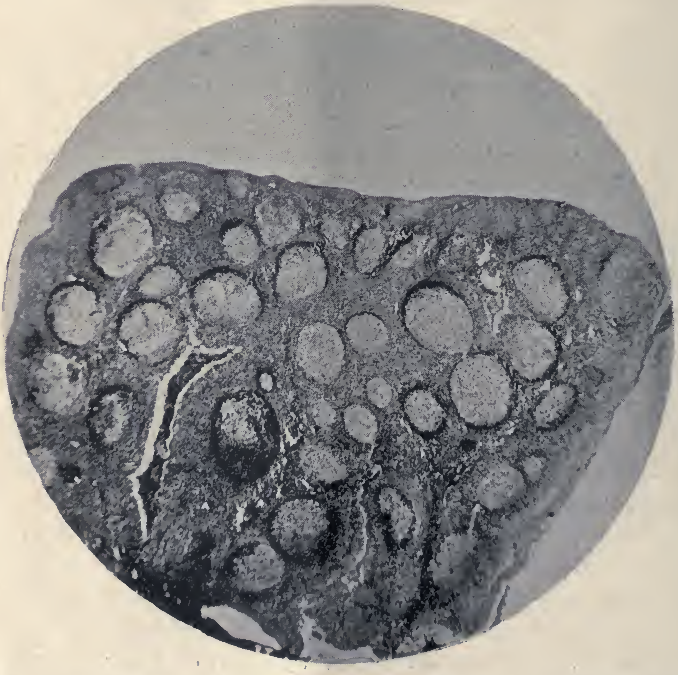

FIGURE 1. Transverse section of one lobe, post-nasal adenoid. The adenoid is covered with a thin layer of stratified (pavement) epithelium which rests directly on the adenoid tissue beneath. One of the lymph-nodules is shown more largely magnified in Fig. 2. 15 diam.

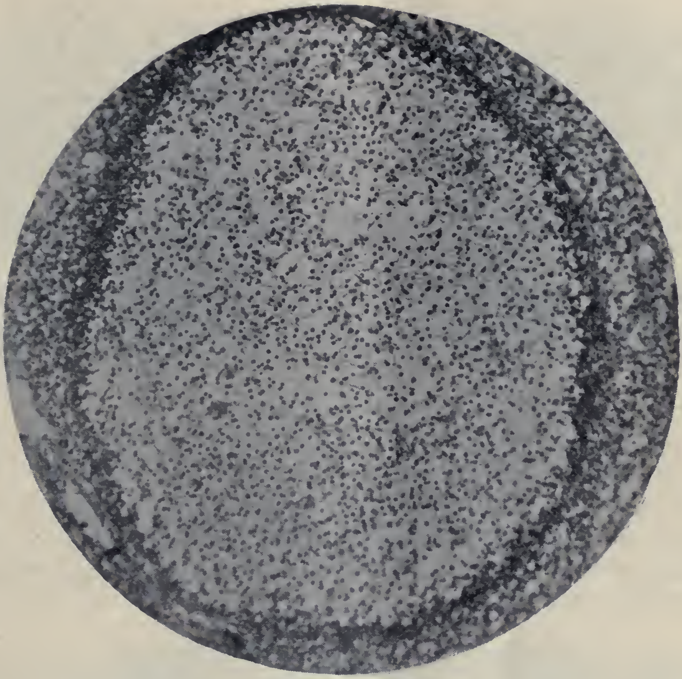

FIGURE 2. Showing the reticulated tissue in the meshes of which are lymphoid cells. The nodule is surrounded by more dense adenoid tissue. 125 diam.

Figs. 1 and 2 represent a transverse section of, and a lymph-nodule in post-nasal adenoid, as shown under the microscope.

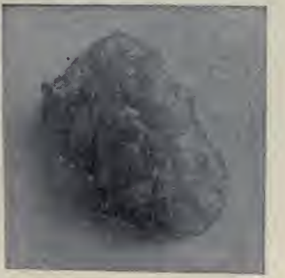

FIGURE 3. Adenoid growth.

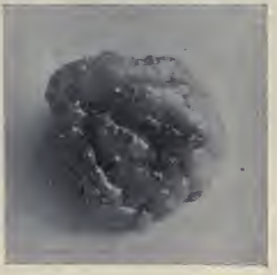

FIGURE 4. Adenoid growth.

In illustrations 3 and 4 (natural size) are seen an adenoid growth removed from a girl eleven years old, in whom atrophic changes of the nasal passages were well marked. (Fig. 3 representing the free, and Fig. 4 the cut, surfaces.)

Inspection of the accompanying figures will give some idea of the varied appearances post-nasal vegetations may assume.

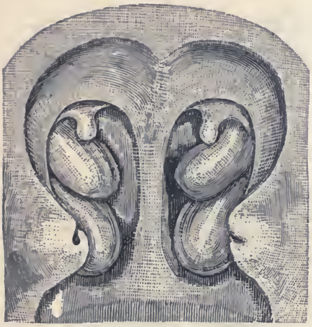

FIGURE 5.

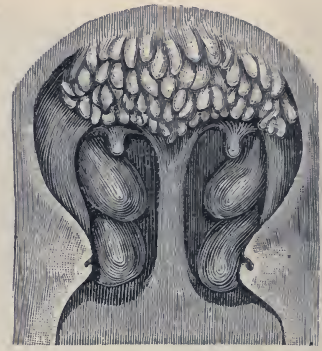

FIGURE 6.

Fig. 5 represents a normal naso-pharynx.

Fig. 6 represents the vault of the pharynx covered with adenoid excrescences found in infants, and may be termed congenital. It is reasonable to believe that, through long-continued inflammatory actions brought on by environment and temperature variations, the enlarged adenoids of youth have a primary origin in and development from the congenital variety.

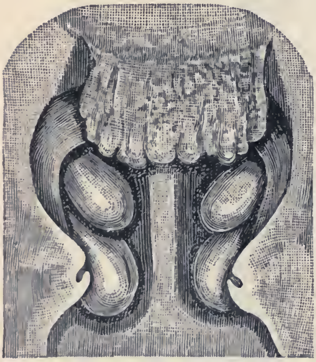

FIGURE 7.

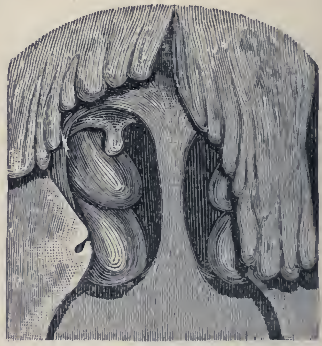

FIGURE 8.

Fig. 7 represents a growth quite common.

Fig. 8 is illustrative of a case referred to me some years since, and represents the "stalactite" form of the disease, the formation on the right resting on the cushion of the Eustachian tube and covering its opening. The patient, male, eighteen years old, gave history of deafness and *tinnitus aurium* of long standing, which did not yield to the treatment of a competent aurist who had his case in charge. A rhinoscopic examination revealed the picture shown. The growths were removed by the use of the cold snare, with the result of restoration of hearing.

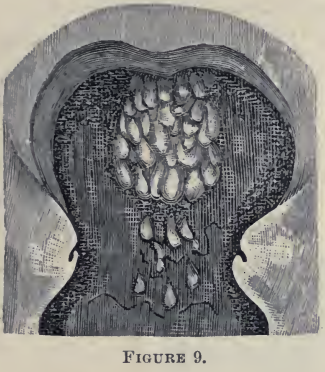

FIGURE 9.

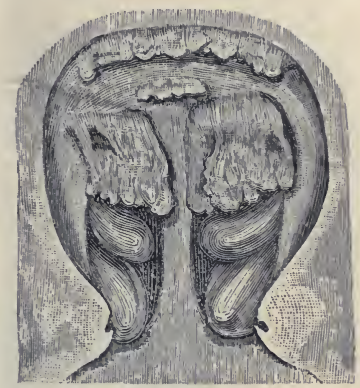

FIGURE 10.

Fig. 9 represents a condition where a lymphoid mass occupies the posterior wall of the naso-pharynx and forms a serious impediment to voice production.

Fig. 10 represents an incomplete curettement, and shows remnants of adenoid tissue still veiling the upper part of the posterior nares, which ought to be got rid of, else partial stenosis will still remain.

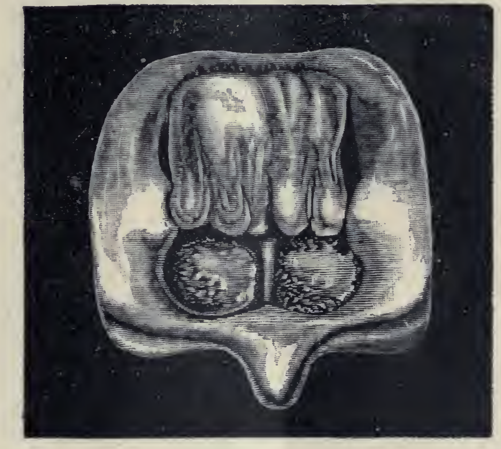

FIGURE 11.

Fig. 11 illustrates the post-nasal cavity and posterior nares of a boy, eleven years old, at present under treatment. The pharyngeal tonsil is here seen to almost fill the vault, hiding at the same time the choanæ of the nose. It is quite interesting to note the relative position of the growth to the Eustachian structures. Further examination brings to view chronic thickening of the lower turbinal bodies, which, in conjunction with the adenoid growth, forms a formidable barrier to respiration.

The clinical signs or physiognomy of post-nasal vegetations are characteristic and unmistakable. The open mouth, the pinched nose, the drawn-down inner canthi, the elevated eye-brow, the corrugated skin of the forehead, the distorted chest, the apparent mental deficiency, the altered or "dead" voice, and the defective general development, evidence the presence of the trouble.

Observe the facial expression of the boy in illustration 12. Nothing could be more significant.

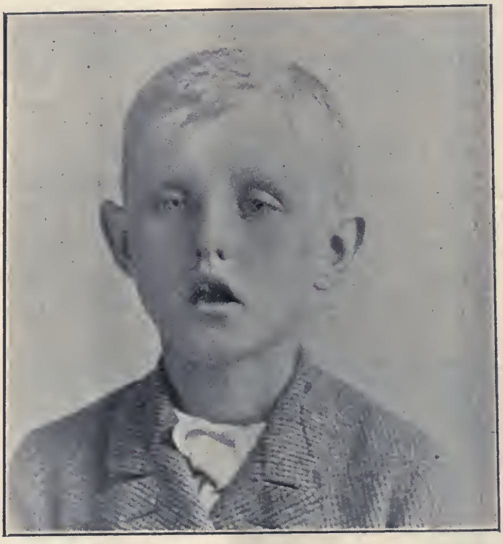

FIGURE 12.

When this patient was brought to me by his father, who is an intelligent man, I was asked: "What is the matter with my boy; he does not seem to be mentally right?" The history given was in brief as follows: Aged nine years; showed signs of decided nasal obstruction at the age of two, before which he had had the "sniffles" at frequent intervals. The stenosis gradually increased and eventually mouth-breathing became fully established. Deformity of the sternum was marked; sleep was disturbed; had night terrors; suffered from enuresis; was nervous, irritable and cross; arose mornings fatigued and stupid; took no interest in books or the sports of his playmates; never had diphtheria or scarlatina. He was quite deaf, but at no time did he have suppuration of the ears. Owing to an inability to blow the nose, a muco-purulent secretion, producing excoriations of the nostrils, was a source of constant annoyance.

On examination of throat, the tonsils were found to be enlarged. By retracting the soft palate and using the rhinoscopic mirror, inspection of the naso-pharynx revealed a "third" tonsil which, in consequence of its unusual size, quite filled the cavity and encroached on the Eustachian orifices. Complete removal of the obstruction was followed by a subsidence of the symptoms, and in illustration 13 is seen the appearance of the patient eighteen months after operation.

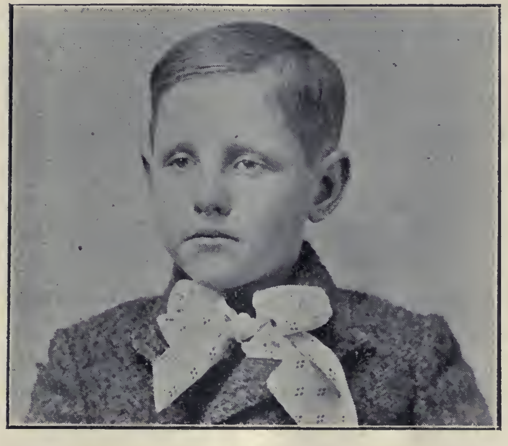

FIGURE 13.

A comparative study of the two pictures tells the story, and further comment is unnecessary. The subsequent history is to the effect that, instead of being disinterested, the boy has new life and is ambitious.

Some one has said: "It is babyhood that has made man what he is." This important period of life should then be respected, and the infant struggling for existence should have all avoidable obstacles removed which may tend to interrupt the processes of development. Occasions sometimes present themselves when the child at its mother's breast is unable to perform the function of taking food in consequence of the embarrassed nasal respiration dependent upon the presence of post-nasal vegetations. The medical advisor under such circumstances should look beyond the frænum of the tongue for the cause of the impediment.

By posterior rhinoscopy or by the insinuation of the forefinger into the post-nasal space, the diagnosis is easily made. Seen by the aid of the mirror, the various forms of growths appear as set forth in the foregoing illustrations.

Not infrequently they are observed to obscure the greater part of the posterior nares, septum and the Eustachian tubes. A single growth or red lymphoid mass, hanging down from the vault of the pharynx, is all that can be seen in most cases, while others consist of excrescences, aggregated or separated, covering the roof.

In the examination of children the employment of the mirror is not at all times practical. When this is the case no better method than the use of the index finger presents itself. It is well known that an educated sense of touch serves the surgeon, no matter in what department of surgery he may work, a purpose which is both invaluable and helpful in formulating a diagnosis. The accomplished obstetrician does not resort to the use of a vaginal speculum in order to determine the progress of labor. His trained digit receives the impressions and gives the information as to whether or not the *os* is rigid, soft or dilating, etc. The same holds good in explorations of the naso-pharynx. Should adenoids exist, the finger determines the magnitude and the nature of the presenting condition. When touched the sensation given has been described as that of a "bag of worms," which on manipulation is sometimes followed by slight hemorrhage.

The treatment is surgical, differing only in the methods employed. When feasible, excision should be done under illumination, because the outlines of the tumors are thus brought into view, whereby the operator is enabled to use his instrument with greater precision. Should it be a snare, the adjustment of the wire loop around the mass is made more easy; a post-nasal cutting forceps, the adjacent structures remain uninjured; or a curette, the mucous membrane of the posterior wall of the naso-pharynx escapes being stripped from its attachment, a circumstance liable to occur when the operation is in the hands of a novice.

Cocanizing the parts and drawing forward the soft palate with either hook or tape, the operation is made both easy and satisfactory.

If, owing to nervousness or fear, the patient is not able to co-operate with the surgeon, then a general anæsthetic (chloroform being preferable) should be administered. The anæsthesia should not be carried to complete narcotization, for the reason that the laryngeal reflexes ought to be preserved in order to obviate serious trouble which might come from blood or other foreign matter finding its way into the larynx. The patient with gag in mouth is now placed on the operating table, face downward, and head inclining over its edge. This position allows gravity to take care of the blood, the flow of which for the moment is profuse, by causing it to escape from the nose and preventing its diversion toward the throat or stomach. Observing thorough asepsis of the hands, and having the nail neatly trimmed to an oval point, hardened by previously immersing it for a few minutes in alcohol, the fore-finger of the operator is introduced into the post-nasal space, care being exercised at the same time that the soft palate is not rolled up in front of the finger and bruised. Commencing in the median line of the vault at the septum, and gradually working to either side, the growths are detached and broken up. If thoroughness is practiced, relief is sure to follow. Occasionally it happens that a second attempt at removal with the finger nail is required, especially when the vegetations are largely composed of connective tissue. Infants whose sensibilities are not acute, do not need an anæsthetic, because the lymphoid nodules, depicted in Fig. 6, can be readily detected and detached without producing much discomfiture. This I have often done successfully on patients whose ages ranged from one month to several years. But little after-treatment is necessary. It should be noted that, in children in whom the adenoids are large and the accompanying symptoms pronounced, complete recovery may be slow. The open mouth may remain so, or for an indefinite period at least, in consequence of the apparent paresis of the *obicularis oris* muscle.

I am indebted to my friends—Dr. J. H. Stewart, for drawings, some of which were taken of growths while the patient was in the operating chair, the cuts of which herewith presented so graphically illustrate the various forms of adenoids; and Dr. W. C. Borden, U. S. A., for the two excellent photomicrographs of lymphoid tissue.

NEW INSTRUMENTS.

A New Nasal Saw, to be Run with the Electro-Motor.

BY G. MELVILLE BLACK, M.D.

Professor Laryngology and Rhinology in the Colorado School of Medicine, Denver, Colo.

Some time ago I wrote to Tiemann & Co., sending them a drawing of a nasal saw to be run with the electro-motor, requesting them to make an instrument after the plans enclosed. They informed me that they had two saws in stock to be run with the electro-motor, one of which was designed by Roe, and the other by Potter. They sent them both to me to see if either would suit me; if not, if I could use any part thereof, it would enable them to construct a saw after my designing with less experimenting and in a shorter space of time. Potter's saw was designed in such a way that the rotary motion of the motor shaft was converted into a forward and back movement by a cam, the saw blade having about a half-inch stroke. The cam movement, together with the enormous stroke, gave the instrument such great vibration that I found it difficult to hold the instrument in my hand. I found that I could stop the saw by pressing lightly on the top of the blade. I then turned my attention to Roe's saw, which was to my mind equally faulty. It had a half-inch stroke, but could be reduced to a quarter inch, but even with the lesser stroke the vibration was enormous. The ease with which Roe's saw could be stopped was largely due to the manner he had adopted of attaching the motor shaft to the saw. This was done by means of a flexible spiral shaft which joined to the saw at right angles to the handle. I do not know what object Dr. Roe had in making this shaft flexible; but be that as it may, it was a bad piece of mechanism, for when there was any pressure on the saw blade this spiral shaft would kink up and cause a great deal of annoyance. I attempted to correct this by having Tiemann replace it with a solid shaft, but still I found I could stop the movement of the saw by pressing firmly with my finger on the top of the blade. I then found the trouble was due to the shaft being connected to the saw at its side, and at right angles to the handle. The weight of the shaft running from the motor to the axle of the drive wheel was so great as to cause the axle to bind on its collar. The one feature of Roe's saw that I adopted was the drive wheel. This drive wheel propelled a rod connecting with the saw blade, and was attached to the drive wheel with a screw at a little distance from its center. This method of converting a rotary into a forward and back movement seemed to me to be simpler than the use of a cam, which was my first idea.

The saw blades used in Potter's and Roe's saws were very faulty, being too thick, and with too many teeth to the inch. In short, I found the mechanical defects in each so great that neither was practicable without material modification.

The following is a cut of the saw as perfected:

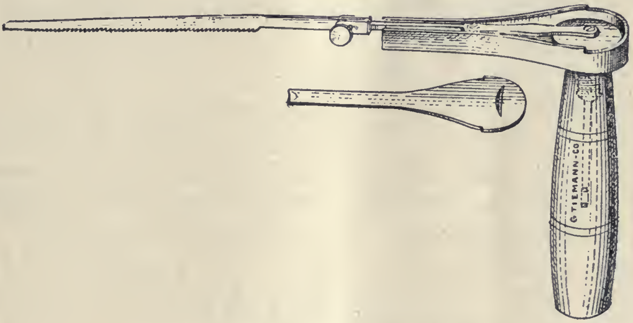

FIGURE 1. Black's Electro-Motor Nasal Saw.

The only difference between this saw and the one I originally intended having made is in the adoption of Roe's drive wheel, and in consequence Tiemann & Co. used the same shaped metallic case as used for Roe's and Potter's.

The above saw has an eighth of an inch stroke. I learned by experimenting with the other saws that a very short stroke was necessary to overcome the excessive vibration. With this short stroke this objection is overcome. The hand piece of the motor shaft is pushed into the handle of the saw, the weight of the shaft is in consequence in a downward direction, is out of the way, does not overbalance the saw as in Roe's instrument, and there is no binding of the axle. It is almost noiseless, and when at the height of its speed no amount of pressure on the saw blade will stop it.

The blade used is a regular Bosworth blade, which to my mind is the only blade worth anything on the market.

Almost all men specially fitted for rhinological work now have an electro-motor of one-eighth horse power. This is the kind of a motor I use, and I find it has ample power to run the saw to perfection. When ordering this saw of Tiemann, it will be necessary to specify what kind of a hand piece is used, so that the proper kind of a stem can be made to fit it.

When removing a large septal spur by hand I feel sure that most of you have been compelled to stop several times to rest. The short, rapid stroke required for this operation I have found to be very fatigueing. With this saw I can remove a large septal spur in one-fifth the time required to do it by hand, and with no fatigue. These operations are always more or less bloody, and I find when operating by hand that it is frequently necessary to stop to allow the patient to clear the blood from his throat. With the motor saw the spur is removed so quickly that the patient experiences no difficulty from blood accummulating in his throat; hence it is not necessary to remove the saw from the seat of operation from the beginning to the end of the procedure. Again, we often meet with spurs far back on the septum or high up on that structure, where there is not room enough for the length of stroke required by hand. With the motor saw all the room required is a little over an eighth of an inch; hence any growth from the septum becomes accessible. The greatly reduced time of the operation and fatigue to the operator renders the instrument of much value.

In closing, I desire to thank Messrs. Geo. Tiemann & Co. for the accurate execution of my instructions, and the very low price at which they have placed the saw on the market.

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EDITORIAL.

OUR NAME.

"What's in a name?" A name is the "title by which any person or thing is known, understood or spoken of." It was not an easy task to select a comprehensive single word, descriptive of the trio of specialties to which the journal will be devoted.

The word "laryngoscope" was a term formerly applied only to the mirror employed in the examination of the larynx; but, with the progress of the studies of the upper air passages, this instrument became of use in the examination of other cavities, until now the complex illuminating apparatus designed by Mackenzie, Tobold, Bezold, *et al.*, operated by lamp, gas or electricity, styled the "laryngoscope," would broadly designate an illuminating instrument for use in the examination of diseases of the nose, throat and ear.

With this explanatory remark for the use of the name, we beg leave to introduce the LARYNGOSCOPE to the medical profession.

OUR ASSOCIATES.

The names of our Associate Editors is sufficient guarantee to the reading medical public that the advances made in the specialties represented by the LARYNGOSCOPE, in their several sections of our country, will be ably presented by them. Our Foreign Editors are all men of note in the medical world, and need no introduction. To each and all of our associates we desire to express our gratitude that we have been able to interest them in our undertaking.

TO OUR FRIENDS.

To the many friends who have so generously promised to assist us by their contributions we desire to express our sincere thanks, as also to the more than three hundred specialists and general practitioners who assured us of their support by sending their subscriptions in advance of the publication of the initial number.

WE REQUEST YOUR CO-OPERATION.

To those of *the profession* who receive this, the initial number of the LARYNGOSCOPE, we respectfully appeal for support and assistance in our undertaking. Give us your moral and active support. Send us your subscription, and also the names of your friends whom you think will be interested in seeing a copy of the JOURNAL.

OUR PROSPECTS.

It is not often that a periodical, especially a medical monthly, is able to secure in advance of publication any subscriptions, except from individual friends of the promoters of the venture. The fact that we have received the subscriptions of over three hundred of the prominent members of *the profession*, would seem to indicate that there is a field for the LARYNGOSCOPE, and as a forerunner of future financial support shows that our prospects are good.

NEWS ITEMS.

We earnestly request secretaries of medical societies having a section devoted to the interests of diseases of the nose, throat and ear, to communicate with the LARYNGOSCOPE, giving the names of the officers and place and date of meeting, so that we can publish a comprehensive society directory.

WHAT THE PROGRESSIVE DOCTOR NEEDS.

In these days of rapid medical progress, when books become obsolete in a year or two in their bacteriology and treatment of some diseases, such as diphtheria, when advances are not made step by step, but bound by bound like the leaping hound, the ordinary medical mortal is left behind, distanced, and out of the race if his sole reliance is placed on his book-shelves.

Current thought and contemporary work are recorded in current literature; but so widely diffused throughout the general medical press that the specialist and his half-brother, the general practitioner, who must perforce do special work, lose too much valuable time in culling the material that is useful to them. For him who devotes his studies and practice to the nose, throat and ear, no truly representative American journal exists. Those that approach it divide their space between these subjects and the eye, with such a preponderance of ophthalmologic literature as to swamp nearly out of sight, as a mere side issue, the triple specialties.

Our cousins, the English, have their representative of the devotees of the three specialties, and the French have shown similar enterprise. If a small fraction of the 100,000 physicians in America manifest their purpose of keeping abreast of the fast-flying times in these important subjects by supporting the labors and the initiatory financial sacrifice of the founders of such a journal, the establishment of the LARYNGOSCOPE will prove, as it ought to, a credit and a profit to American medical enterprise. Its field of usefulness is large and well cultivated by men of high attainments. It should be a lens to focus the best and broadest learning of the three specialties, both at home and abroad; a mirror to reflect the advancing march of progress. Let us hope this may be the scope of the newly-launched LARYNGOSCOPE. S. S. B.

It is the intention of the LARYNGOSCOPE to present to the profession the essence of practical experience of those interested in diseases of the nose, throat and ear. We do not offer this periodical as a monthly issue published solely for the benefit of the specialist, but trust that the busy and ever-advancing general practitioner may find it a source of comfort and an epitome of valuable information.

We freely appreciate that many mighty and excellent therapeutic suggestions are overlooked, owing to the voluminous mass of current literature. We desire to tender worthy material in a condensed but useful form, so that unnecessary reading may be avoided, and only the vital matter given due prominence. Original thought and clinical deductions will assuredly receive prompt and deserving recognition.

Many eminent gentlemen have promised their earnest co-operation, and we sincerely trust that the first monthly journal devoted to diseases of the nose, throat and ear will receive the undivided support of the profession at large. M. D. L.

Although the years in which the scientific study of the diseases of the nose, throat and ear has been given special attention are yet few, still the subject has spread with such rapid strides that this branch of medicine has long since required the publication of separate journals, so that those who interested themselves in these branches could have a medium through which to obtain the latest and fullest information on the subject.

Not only has the number of those who give their undivided attention to diseases of the nose, throat and ear increased; but the general practitioner, through the instrumentality of post-graduate courses and the introduction of rhinology, laryngology and otology as a part of the curriculum of our prominent colleges, now gives more and more attention to this subject; and with the increase of information in this direction comes the desire to keep up the acquired knowledge and to build up on the foundation established in the elementary courses.

For these especially who, from their rapidly-increasing knowledge of laryngology and the allied branches, require special recognition, and for the large number of faithful workers who have made these their specialty, the LARYNGOSCOPE has been launched. Its pages will be filled with short and pithy articles of interest to the object of the publication, and it will be endeavored, in each monthly issue, to keep the reader posted on all important advances in rhinology, laryngology, otology and allied literature.

The communications in the LARYNGOSCOPE will by no means be limited to writers who give their exclusive attention to the diseases of the nose, throat and ear. While interesting articles from these valuable writers will always be appreciated, still the general practitioner is especially invited to contribute the record of his experience in nose, throat and ear cases. It is well known that many acute diseases of this class come under the care of the family physician; and these, as well as the throat and ear complication of many of the exanthema and other diseases, will render their articles of such value that these contributions will be made especially welcome.

A prominent physician, on seeing the prospectus of the LARYNGOSCOPE, remarked: "Why, the first number alone will be worth the price of subscription." The object of the editorial staff will be to make each number of similar value; and with the hearty co-operation of the medical profession this object will not be difficult of attainment. W. S.

SELECTIONS
FROM CURRENT MEDICAL PUBLICATIONS.

RHINOLOGICAL.

A New Position for Major-Nasal Operations.

Carl Seiler describes a new position for major operations within the nasal cavities (*Maryland Medical Journal*). Where general anæsthesia is necessary, as in large fibroid tumors or rhinoliths, it is very often necessary to plug the posterior nares and perform tracheotomy, making the operation more tedious and complicated. To avoid this, he has for several years employed a method which he has found satisfactory in these cases. He places the patient on a table in a ventral recumbent position, with the head projecting over the table, and held in a horizontal position by a band around the forehead, which is held by an assistant or by a firm support attached to the table. While the relative topography of the parts are changed, still this does not render the operation more difficult than when the patient is in a dorsal or lateral position. During the operation, the blood flows downward from the mouth or nostril, without any risk of suffocating the patient. While operating, he depends much upon the sense of touch; but where the light is necessary, he lies upon his back on the floor, and reflects the light in the usual manner; when in this positson the relative topography of the parts are re-established. W. S.

The Etiology and Treatment of Post-Nasal Catarrh.

W. Freundenthal, in the *Journal of the American Medical Association*, gives some useful points regarding the treatment and etiology of post-nasal catarrh.

The naso-pharynx is a part of the respiratory track, as it is lined with columnar ciliated epethelium. Although Aschenbrandt has demonstrated in his experiments, that the greater portion of the warming and moistening of the inspired air is carried on in the nostril, still these experiments were conducted in normal subjects. Freudenthal has made a number of experiments in pathological subjects, as well as normal, and has found that the naso-pharynx is a very important adjunct to the nostril in its respiratory functions. In a case in which the nostril of the patient had been very extensively cauterized for four years, so that the nostrils were able to carry on only 25 per cent. of their function, yet this patient felt no inconvenience whatsoever, (?) showing that the naso-pharynx had contributed very largely in preparing the inspired air in this case. He attributes much of the prevalent catarrhal troubles to defective methods in warming houses, the heat of which is almost always too dry. The common idea that we catch cold on account of defective dress, is erroneous; the true reason being that we do not live enough in the open air, and do not admit enough fresh air into our houses. Children who go barefoot are not as subject to colds as those who wear shoes. The underwear should only be worn to the extent that it is necessary, so as not to interfere with the cutaneous respiration. W. S.

Sarcoma Presenting in the Nasal Fossa.

Four months after removal of what seemed to be a myxoma, the right nasal cavity was found to be occluded by a round-celled fibrosarcoma, in a female twenty-six years old. Repeated curettage was carried out, but it became necessary to remove the body of the ethmoid bone by external operation. It is supposed that the polyp was the result of irritation due to the presence of the malignant tumor.—HARING, *British Med. Journal*, Feb. 29, 1896. M. D. L.

LARYNGOLOGICAL.

Diseases of the Mouth, Nose and Throat as Pathological Factors in Gastritis.

F. B. Turck, in the *Medical Fortnightly* has an article on "Diseases of the Mouth, Nose and Throat as Pathological Factors in Chronic Glandular Gastritis, with Bacteriological Studies of the Pharyngeal Vault."

Bacteriological studies have shown that upon the mucous membrane of the mouth, nose and pharynx groups of micro-organisms are found, which are also present in the stomach during gastritis. Under normal conditions the mucous membrane of the stomach does not favor colonization upon its walls, but during pathological processes micro-organisms may develop. The mouth, nose and throat, in diseased conditions, are incubators, ready to infect the stomach when diseased conditions permit the development of growing micro-organisms upon its walls; these bacteria being carried into the stomach during the act of swallowing. Turck, in his clinical and experimental work, has demonstrated groups of micro-organisms obtained from the gums and cavities of the teeth, similar to those found in the material from the walls of the stomach, obtained by the gyromele (revolving sound). He reports several cases, in which he shows that many of the pathological micro-organisms present the identical biological and physical forms in cases of gastritis as found in the mouth and post-nasal cavities of the same patient. W. S.

Serum for Tuberculosis.

Paul Paquin, of St. Louis, at the last annual meeting of the Mississippi Valley Medical Association, spoke in favor of his serum for tuberculosis. H. W. Loeb reported cases in which he had good results with the serum in laryngeal tuberculosis, and Paquin in the discussion stated that the new remedy was still in its infancy, and would no doubt be improved in the future. While he had had failures, still forty or more recoveries proved the efficacy of the serum. The best results are obtained in the acute, and not in chronic cases. The treatment should be kept up for six months, or longer. He has made more than 10,000 injections in tubercular patients, and cannot recall a fatal result. He counsels the careful study of the climate, as well as of the patient, before sending him away. W. S.

Asthma.

A case of asthma cured by the inhalation of the vapor of peroxide of hydrogen is reported by Dr. W. B. Ketchum (*The Texas Health Journal*). The patient had been subject to attacks of asthma for ten years, until she was directed to inhale the vapor from an inhaler which contained equal parts of glycerine and peroxide of hydrogen. After she had used this treatment for one month, the patient reported herself as "cured." (?) W. S.

Post-Diphtheric Paralysis.

Dr. W. O. Jenkins believes that there is no relation between the severity of the attack of diphtheria and the frequency of occurrence, or extent, or degree of the paralysis following (*Indiana Medical Journal*). The attending physician should therefore be very guarded in his prognosis in every case of diphtheria. Cardiac paralysis is a most unfortunate complication in this disease, and may follow a light attack, or at a time when the patient is considered convalescent. He describes a case occurring in his practice in which the little patient had so far recovered that he had ceased his visits. A few days afterwards the child was sitting up in bed playing with its toys, when the mother, who had gone into an adjoining room, heard a groan, ran back to the bed and found the child dead.

Paralysis follow in certain cases of diphtheria regardless of the method of treatment. While some claim that antitoxin diminishes the probability of this complication, this has not been his experience, and a careful study of statistics shows that paralysis develops in cases treated by antitoxin as frequently as in any other method. W. S.

Hypertrophy of the Lingual Tonsil.

Edward Tompkins gives a report of a number of cases of hypertrophy of the lingual tonsil (*Virginia Medical Monthly*).

The symptoms most often observed are a dry cough, fatigue after speaking or singing, and an irritation in the throat, on account of the epiglottis being hampered in its action by the lymphatic tissue. These symptoms are most aggravated in nervous patients. Temporary relief is sometimes obtained by astringent gargles, but a total removal of the hypertrophied tissue is the only rational treatment in most cases. He finds the galvano-cautery useful, but dangerous in the hands of inexperienced physicians. The snare can only be used when the hypertrophy is very prominent—he prefers Myler's gilotome, which will quickly remove even small and sessile growths. He has not seen any alarming hemorrhages in the cases in which he has used this instrument. W. S.

A Case of Death from the Administration of Nitrous Oxide

Is reported in the *Druggists' Circular*. A young woman dying under the anæsthetic, which had been given for the removal of four teeth. The same patient had taken this anæsthetic on a previous occasion without feeling any bad effects from its action. Dr. Dundas Grant, in discussing a paper on "Adenoid Vegetations," read by Dr. Yersand Arslan, at the Fifth National Congress of Otology, recently held at Florence, stated that he performed these operations under nitrous oxide on account of its safety; and a number of surgeons used this as a routine anæsthetic for minor operations. A report of this, and other similar cases, should admonish care in the administration of this as well as of other anæsthetics. W. S.

Traumatic Hæmatoma of the Right Pyriform Sinus.

The patient showed no abnormality on external examination, except that the right upper part of the thyroid cartilage was sensitive on pressure. On laryngoscopic examination a red tumor was seen, and digital manipulation revealed abnormal mobility of the right cornu of the thyroid cartilage. The author believed that the cornu was fractured.—ROSCHIER, *Journal L., R. et O.*, May, 1896. M. D. L.

Angio-Neurotic Œdema.

In this instance the disease attacked the uvula, pharynx and nose of a young lady of nervous temperament. Suffocation was feared owing to the involvement of the larynx. Its onset was sudden, and was preceded a few days by an attack of hay fever. The edema rapidly disappeared and was followed by an attack of urticaria —BALLENGER, *Journal L., R. et O.*, May, 1896. M. D. L.

Some Recent Improvements in the Treatment of Laryngeal Disease.

Among the suggestions noted in this resumé are three methods mentioned in the treatment of chronic laryngeal stenosis: (*a*) Dilatation of the stricture by endolaryngeal operation, until a tube of sufficient calibre can be worn; (*b*) gradual dilatation by Schroetter's bougies; (*c*) thyrotomy, in order to remove the obstruction, which operation is to be followed by intubation. The author recommends McNeill Whistler's cutting dilator as a valuable instrument.

Electrolysis is said to be efficacious in the treatment of pachydermia laryngis. The needles are inserted side by side in a holder, and after local anesthesia they are introduced into the hypertrophied tissue. A current of from 10 to 15 milliamperes is passed for about five minutes at a sitting.

Complete cure has followed the repeated application of absolute alcohol in the form of spray in papillomata of the larynx. This therapeutic measure may possibly prove to be an early means of differential diagnosis in cases of benign and malignant growths affecting this region. He further remarks upon the advances made in the treatment of laryngeal tuberculosis, mentioning the surgical as well as other methods which are now practiced. The operation of thyrotomy is carefully considered.—D. BRYSON DELAVAN, *N. Y. Polyclinic*, May 25, 1896. M. D. L.

OTOLOGICAL.

Contribution to the Bacteriology of Otitis Media Purulenta.

Though the number of cases of acute suppurative disease of the middle ear which has been examined is comparatively small, the author gives the result of his observation. He quotes the opinion of Zaufal, who states that "a pure culture of any micro-organism is rarely found in the secretion of otitis media purulenta chronica; as a rule there is a variety of bacteria, particularly in neglected otorrhea and where the secretion is stagnant." The author remarks that the disease furnishes an excellent culture medium for the growth of the most varied bacteria. His tests were made from the discharge of patients who were at the time not under local treatment, so that contamination of the meatus by oil, etc., could be excluded. Like previous investigators, his experiments failed to show any bacteria characteristic of the disease in question. In chronic cases the microscope revealed a great preponderance of rods over cocci. Staphylococci were frequently found, and in the last stage of a chronic suppuration one variety of saprophyte was continually found. Their presence seemed to be characteristic of the chronic form.—Leopold Stern, Metz, *Archives of Otology*, April, 1896. M. D. L.

Epithelioma of the Temporal Bone.

This peculiar position of the growth occurred in a man, aged 38. The history was one of traumatism. At the age of 12 years, he introduced into his left ear a piece of slate-pencil, which was extracted only after detachment of the auricle. Union was not complete, as a fistula remained in the auriculo-mastoid groove, from which more or less discharge appeared. Three months before his visit, violent pains set in, with considerable infiltration of the affected region. Complete loss of hearing resulted. The meatus was filled by a growth, discharging pus and bleeding readily. After radical operation a cavity remained the size of a hen's egg. Its inner wall was formed by the meninges (strongly driven inwards); its lower limit was formed by the pyramid of the petrous bone (the upper surface of which was almost entirely destroyed); the other boundaries were what was left of the squamous portion of the temporal. Microscopical examination showed the growth to be an epithelioma. It is remarkable that no peripheral symptoms existed, in spite of the cerebral pressure. No eye or face symptoms were observed.—Hennebert, *Journal of L., R. et O.*, May, 1896. M. D. L.

Treatment of Abscesses of the Auditory Canal.

When redness of the canal accompanied by lancinating pains appears, painting the part with a solution of silver nitrate, 1 in 10, or carbolic and glycerine solution, same proportion, is recommended in the hope of arresting the progress of the trouble. An ointment containing mercury and belladonna is also given. If the abscess has reached the second stage an incision is indicated. (Prompt incision at the start may cut short the suffering and prevent any further annoyance.—M. D. L.)—M. COURTADE, *N. Y. Med. Journal*, May 30, 1896.

The Importance of Making a Careful Examination of the Ear, Nose and Throat, from a Medico-Legal Standpoint.

Not infrequently the medical attendant is called to a court of justice to give his opinion in suit for damages. For this reason, as well as to insure a satisfactory result in the treatment of any given case, a careful examination should always be made. The author mentions an instance in which he was called as a witness. The patient's neighbor had advised some pepper and salt application to the ear for the relief of a toothache. The latter symptom was benefited, but an otalgia resulted. The patient in attempting to remove the pepper and salt employed an old toothpick as an evacuator. At the time of extracting the foreign element the patient experienced a sharp pain in the ear. Suppurative otitis media developed shortly after, and she had her neighbor arrested, on the ground that the advice was given maliciously. The author had examined the ear after the traumatism and gave his evidence accordingly. The case was dismissed by the court.—W. SCHEPPEGRELL, *American Medico-Surg. Bull.*, June 6, 1896.

M. D. L.

Acute Hæmatoma of the Left External Auditory Canal.

This case is of interest on account of the sudden onset, with severe pain in the ear and marked deafness. The patient was a singing teacher, enjoying excellent health. He had over-exerted his voice, but that was the only history given. Two days after the commencement of the aural pain the canal was found completely obstructed by a bluish-colored tumor, which fluctuated and was painful on pressure. Incision gave exit to blackish blood. Nothing but the normal elements of blood was found under the microscope. The author thought that an anomalus vascular arrangement, which in consequence of the prolonged strain in the use of the voice, had induced a hemorrhage, giving rise to the hematoma.—ARSLAU, *Journal of L. R. et O.*, May, 1896.

M. D. L.

NEW INSTRUMENTS.

An Electro-Magnetic Tube Extractor.

W. W. Wetherla, of Chicago, describes in the *American Journal of Obstetrics* a new laryngeal tube extractor. This extractor acts on the principle of the electro-magnet. The handle of the extractor is somewhat like those in ordinary use, but has a coil of insulated wire connected with a chemical or storage battery, with an electric pressure of about six volts; when a current passes through this coil, the soft iron core is magnetized and the handle then becomes a strong electro-magnet. As the magnetic action has no influence on tubes made of silver or brass, they must for this purpose be made of iron or steel, or at least have the heads of the tubes made of this metal. Dr. Wetherla has used this tube, and claims that it is practical and easily adapted for the purpose for which it is intended. W. S.

Superfluous Tooth in the Floor of the Nostril.

R. F. Harrell and O. Joachim both report in the *New Orleans Medical and Surgical Journal*, a case of a superfluous tooth in the floor of the nostril. In the case of the former, the patient had suffered six years from great pain, involving the whole right side of the face, and a purulent discharge from the right nostril. The removal of a superfluous tooth, which was found protruding from the floor of the right nostril, caused a subsidence of all symptoms.

In the second case, the superfluous tooth was found accidently while treating the patient for specific ulceration of the nasal septum. This tooth also proved to be a canine, but had given rise to no symptoms, except a non-purulent discharge from the right nostril. W. S.

An Improved Pus Basin.

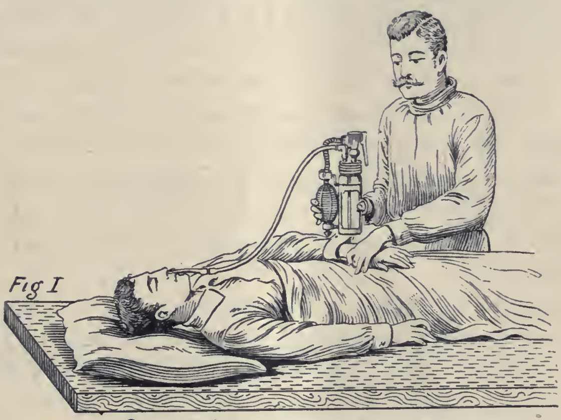
Henry A. Alderton, of Brooklyn, describes in the *Annals of Ophthalmology and Otology* an improved pus basin for the ear. The improvement consists of a metallic tube inserted in the bottom of the basin, which, by means of a soft rubber tube, allows the water after syringing, to pass directly into the receptacle under the table.

A New Apparatus for Uninterrupted Anæsthesia.

Dr. Edmond Souchon, at a meeting of the Orleans Parish Medical Society (also *Medical News*), describes his new apparatus for uninterrupted anæsthesia in operations on the face and mouth, which will no doubt be of considerable importance in our specialty.

In view of the trouble, anxiety and danger of operating upon the face and mouth, on account of removing the face piece, through which the anæsthetic is administered, so as to uncover the field of operation and enable the operator to proceed, he has devised an apparatus in which the anæsthetic may be continuously applied, so that the operator may proceed without interruption.

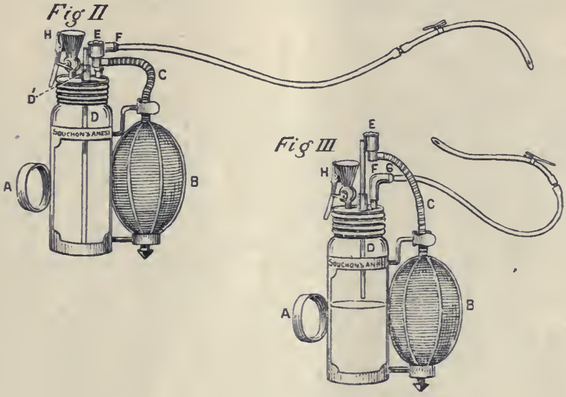
Fig I



SOUCHON'S IMPROVED ANESTHETIZER

Fig II

Fig III



The apparatus which he now uses is an improvement over the one which he had originally devised (Fig. 3). The apparatus as shown in Figure 2 consists essentially of a bottle which contains the chloroform, ether, or any other anæsthetic, a bulb for injecting air, and a flexible tube, by means of which the vapor is passed through the nostril of the patient into the oro-pharynx. In the original device the air was injected into the flask above the surface of the chloroform, but in order to make it applicable to ether, as well as to chloroform, in the latest device the air-injecting tube is passed to the bottom of the flask, below the chloroform, which very materially increases the strength of the vapor passing through the nasal tube. After the patient has been thoroughly anæsthetized by any of the ordinary methods, the face piece is removed, and the flexible tube is introduced through the nose until it has reached a distance of seven inches, the clasp being then made to grasp the nostril and fix the tube. The end of the tube is then in the lower pharynx, so that the patient inhales the vapor, whether he breathes through his nostril or his mouth. It takes very little vapor to maintain anæsthesia when the patient has been well anæsthetized.

One advantage of Souchon's Anesthetizer is, that the vapor is inhaled from the oro-pharynx, thus avoiding the irritating effects of the mucous membrane of the nostril, which is now attracting considerable attention. While this apparatus may be used either with chloroform alone, or a mixture of chloroform and ether, or ether alone—the effects are best with chloroform, although Souchon prefers the mixture of equal parts of chloroform and ether. W. S.

A New Nasal Splint.

Dr. Behrens, in the *Boston Medical and Surgical Journal*, describes a simple device for fractures or operations for deflected septums. After stating the objection to rubber or ivory plugs, he describes his splints, which he makes of cork, in the following manner: A selected cork, $1\frac{1}{16}$ inches long and $\frac{3}{4}$ of an inch thick, is whittled to the shape of an almond, with the points cut off and flattened on the side that is to lie against the septum. The other side is grooved for the reception of the inferior turbinated body. A nasal trephine is now used to hollow out the splint, and after being made smooth by fine sand paper, is coated with flexible collodion, to which iodoform has been added. He claims that this splint is easily made, and cleaned without difficulty by syringing in situ, and can be worn a considerable time without discomfort. W. S.

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ORIGINAL COMMUNICATIONS.

THE INFLUENCE OF DEAFNESS UPON THE DEVELOPMENT OF THE CHILD.*

BY H. A. ALDERTON, M.D., BROOKLYN, N. Y.

Through the eye and the ear the child receives most of its impressions, which are more or less correctly interpreted, according to the degree in which the reasoning powers are developed. It is necessary, in order that the child may not be led to false conclusions, that these impressions be supplemented by instruction from those who are capable. This instruction is mainly communicable through the channel of the organ of hearing. Hence any impairment of hearing must disadvantageously influence the development of the child primarily in two ways: first, through a curtailment of the field of observation; second, through a limitation of the possibility of instruction. These limitations react upon each other, and both adversely influence the child.

The first impression given by a hard-of-hearing child, to those brought in contact with it, is one of inattention. They come to regard the child as being somewhat dull and absent-minded, and imperceptibly get into the habit of speaking sharply and bruskly in order to attract its attention. The child is often reproved for not paying attention to things it has not heard, or for not doing things it was not aware it had been requested to do. There often grows up a feeling that the child is "putting on" to a certain extent. The child gradually begins to appreciate the feelings it inspires, and this tends still further to limit its receptivity by rendering it sensitive and fearful of ridicule and harshness. The too frequent use of these last breed a carelessness of reproof and of desire to please on the part of the child, who too often feels itself the victim of thoughtless injustice. At school the child, because of inability to hear the teacher and fellow pupils, becomes inattentive in fact, and, losing instruction, does not progress as do the others. Falling behind in the studies and having the appearance of being dull and slow, the teacher's effort to instruct becomes more and more perfunctory and valueless, and, unfortunately, even at times intolerant. The child, losing interest in what is going on around, finds the time hanging heavy on its hands, and is, as a natural consequence, led to expend its mental and physical energies in ways that are forbidden by the discipline of the school. This brings forth reproof and punishment, yet for the same reason the child is tempted again and again to run the chances of incurring these, because of its lack of other interest or occupation.

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*Read before the Louisiana State Medical Society, May, 1896.

At play, discovering an inability to take part in the games because of its infirmity, the child gradually loses interest and follows pursuits which do not require the co-operation of others. Lacking thus the incentive to exercise which comes from companionship and the attendant competition and collaboration, malassimilation and malnutrition increasingly make inroads upon the system in general.

At home, where one should naturally suppose that great allowance would be made for this infirmity, we find that it is usually the last place in which it is acknowledged and the place where it is least tolerated. By the time the parents are willing to admit that it is not dullness, but deafness that is the trouble, they have got into the habit of regarding the child as stupid, inattentive and insubordinate. The other children plague and ridicule, and the parents, fatigued by a conscientious effort to discipline and control, usually deprecatingly fall into a half-hearted determination to let things take their own course. Could one but hold up the picture before the eyes of the parents while yet the child was in a condition of possible recovery, how anxious and grateful would they be for any suggestion of means to prevent the many serious results. But, unfortunately, the case progresses so gradually that before they are aware, the damage is done, and all the regrets and recriminations are useless. The habit of the child and of the parent is formed and cannot be amended.

The effect of these various influences upon the development of the child is unfortunate in the extreme. The mind, deprived of its customary cultivation, ceases to expand in proportion to the growth of the individual; the child is "backward." The disposition, constantly disturbed by contempt, ridicule, harshness or over-consideration, becomes uncertain and unreliable, sensitive and uncontrolable. The bodily health, by want of fresh air and exercise, mental worry and disturbance, becomes impaired; the osseous, muscular, vascular, respiratory and nervous systems all feel the effects of malassimilation and malnutrition—especially when the deafness, as it so often is in childhood, is combined with, or due to development of adenoid growths in the naso-pharynx. All these influences, combined, result in producing the narrow-chested, small-boned, feeble-muscled and mentally inactive specimen we so frequently see in the dispensary clinics.

When we come to consider the sphere of prophylaxis in these cases, the criminality of the negligence which allows of such results becomes more and more apparent. It is regarded as no excuse that a lawbreaker is ignorant of the existence of the transgressed law. Neither here should we condone the criminal negligence of the parent or the teacher. As things are, it is impossible to affix a penalty; but, for the future, all our efforts should be directed to eliminating the matter from the hands of careless or incompetent instructors. There should be periodical compulsory examinations of school children for the discovery of all such defects as poor eyesight and difficulty of hearing. The parents of children found to be hard of hearing should be immediately notified of the fact and strongly recommended to place them under the care of a competent aurist, either privately or at one of the numerous public institutions. No child need go neglected. As ineffectual treatment is often worse than no treatment, communication should be had with the family physician, recommending that the child be at least examined, if not treated, by a competent specialist.

Coincidently, it should be the duty of the local Board of Education to form a special class in the public schools for the instruction of these handicapped children, by teachers trained especially for this purpose. It is not a matter to be left to private enterprise and charitable institutional methods. The child with impaired faculties is as much entitled to public instruction as the healthy child; the fact that unusual methods and special teachers are required should be no rightful bar to its claim. Let these things come to pass, and the reproach of preventable deafness would pass from us with all its attendant expense to the body politic.

138 Clinton Street.

ELECTROLYSIS FOR THE REDUCTION OF SPURS OF THE NASAL SEPTUM.*

BY W. E. CASSELBERRY, M.D., CHICAGO.

Professor of Laryngology and Rhinology in Northwestern University Medical School
(Chicago Medical College); Laryngologist and Rhinologist to St. Luke's
Hospital; Laryngologist to Wesley Hospital, Etc.

Electrolysis is a process of chemic disintegration of tissue under the influence of a galvanic electric current, and is not to be confounded with galvano-cauterization. The current strength necessary is from 15 to 40 milliamperes and 8 to 20 volts, which may be supplied by a 20-cell battery; but the author has adapted the Edison electric light circuit to the purpose by means of lamp resistance and the McIntosh current controller. The duration should be from six to eight minutes.

The chief difficulty in the reduction of cartilaginous spurs is to determine exactly when sufficient destruction has been effected, and care, guided by experience, is necessary to prevent perforation of the septum.

A simple deviation or bending of the septum cannot be corrected or straightened by electrolysis, and its use in such a case can only result in perforation. If, in addition to the deviation there is excrescence, the thickening may be reduced or removed by electrolysis, but the deviation will remain.

The pain is trifling, but the sensation tends to cause syncope.

The bipolar method, by which two needles, one representing each pole, are inserted into the spur, is preferable. The author's needles, devised for the purpose, are of irido-platinum, fixed to a convenient handle; but ordinary heavy steel sewing needles may be used.

Sixteen cases are reported, classed in three types, according to the composition and location of the spur and the degree of success attained, from which it is concluded:

While effective in many instances, its scope of application should be limited in accordance with the following principles:

1. Strictly cartilaginous spurs can be thoroughly removed by electrolysis, one, two, or even three operative sittings being required. It

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*Abstract of a paper read at the last meeting of the American Medical Association, at Atlanta, Ga., May, 1896. Original paper, in full, in the hands of *Journal of American Medical Association* for publication in due time.

is more tedious and less brilliant than the surgical method, but is not accompanied by liability to hemorrhage. It is not to be indorsed as a universal substitute for the surgical method in even this limited class, but it is a serviceable measure for exceptional individuals of both this type and of type 2, *e. g.*:

(*a*) For cases of minor degree, small spurs of cartilage, or of cartilage and bone, and thickened areas, which seem scarcely deserving of surgical treatment, but which one would like to see resolved for the sake of the additional nasal space and better drainage which would thereby accrue to the patient.

(*b*) For patients of delicate physique and those of highly sensitive and uncontrollable nervous organizations.

(*c*) For "bleeders."

(*d*) For those who decline surgical interference.

2. As demonstrated by the cases reported under type 2, it will not thoroughly remove spurs which belong to that large class of mixed cartilaginous and bony substance, but it will reduce them in size. The majority of such cases would therefore better be treated surgically as being the more thorough method; but instances will arise, as above indicated, in which, the surgical method being inexpedient, benefit may accrue from the use of electrolysis.

3. As demonstrated by the cases reported under type 3, large spurs composed mostly of hard bone cannot be successfully treated by electrolysis, for the reason that needles cannot penetrate properly; and further, it is doubtful if the process is adequate, even if the needles should penetrate, to the resolution of hard and dense bone, *en masse.*

4. Spurs or excrescence, and not deviation of the septum, is the subject of this paper. Electrolysis is powerless to correct deviated septa of any form.

34 Washington St.

THE USE OF MENTHOL IN PHARYNGITIS.

BY LEWIS S. SOMERS, M.D., PHILADELPHIA, PA.

Although menthol has been used for a number of years as a local analgesic and anesthetic in various morbid processes of the pharynx, its value as a stimulant in chronic atrophic pharyngeal inflammations has not been properly appreciated, being mostly used in oily solutions as a protective in acute affections. I believe that menthol is one of the best drugs we have when used as a stimulant in all atrophic throat troubles, excepting, of course, the chronic specific infections, such as syphilis and tuberculosis, and yet it has some value as a palliative agent in these latter affections.

It is claimed that menthol has four properties: analgesic, anesthetic, stimulant and antiseptic. Its antiseptic properties, if such exist, can be dismissed from our consideration in a few words. After using the drug very extensively, I have little confidence in its germ-destroying power in the pharynx, except as the tissues are stimulated to greater activity by local applications of menthol preparations; and in this indirect way it may be a feeble bactericide. In this connection the following combination as an antiseptic-stimulant and protective may be useful:

℞	Oil Scotch pine	m. xxx.
	Oil eucalyptus	ʒj.
	Oil cassia	m. xxx.
	Menthol	gr. xx.
	Ext. balm gilead, fld	q. s. ad ℥iv.

Sig.: Spray on pharynx.

In septic pharyngitis, a twenty per cent. solution of menthol in albolene or glycerine has occasionally proved of some benefit.

As a local anesthetic the drug is of value by its rapid volatilization, producing a very agreeable feeling of coolness in the throat, and is much used in simple acute pharyngitis in combination with rhus glabra and potassium chlorate, in the form of a gargle; or, as used by McBride,* by local application of a five per cent. solution in olive oil. Although far inferior to cocaine in its anesthetic properties, it does not secondarily cause relaxation of the peripheral arterioles as does cocaine, and also has the advantage of not possessing poisonous properties when absorbed into the system. Dr. S. A. Russell* claims that, when used in from ten to fifty per cent. ætherial solution, it will control superficial inflammations. I have never made use of it for this purpose except locally in the pharynx, and certainly very favorable results are obtained when the drug is used in this manner. In conjunction with ether† fifteen parts and chloroform ten parts, menthol is of value either as a spray or swab in acute pharyngitis. One of the best combinations to be used as a spray in the simple acute form of the disease, is the following:

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*McBride, Diseases of Nose, Throat and Ear.

℞ Cocaine	grs. viij.
Oil cassia	m. xxx.
Menthol,	
Gum camphor	āā ʒj.
Albolene	q. s. ad ℥iv.

In chronic atrophic pharyngitis, menthol is undoubtedly one of the best drugs we possess to combat the irritation and dryness so often complained of by our throat patients. Speaking now of its anesthetic properties only, I use it as a routine practice in all cases where the patient complains especially of faucial dryness. When dissolved in albolene, or any similar oily preparation, the drug can be applied locally to the pharynx, the strength of the solution depending upon the amount of the anesthetic power we wish to exert. I usually use, in a simple uncombined atrophic pharyngitis, a ten per cent. solution, but have frequently applied from twenty to forty per cent. solutions of the drug in old, long-standing cases. Menthol is of more or less value in chronic ulcerated sore throat, where the posterior pharyngeal wall is atrophied and necrosis of the epithelium has taken place, causing the formation of ulcers. In these cases relief from the pain may be obtained by frequent local applications of a twenty per cent. oily solution of the drug, or by the use of a spray composed of:

℞ Menthol	grs. xxx.
Gum camphor	ʒj.
Chloral hydrate	grs. xxx.
Acid carbolic	m. xxx.
Liq. vaseline	q s. ad ℥iv.

In hypertrophy of the mass of lymphatic tissue at the base of the tongue (lingual tonsil), when the patient complains of a sense of a foreign body in the throat, a five per cent. solution will frequently palliate this symptom, but of course has no value as a curative agent.

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*Russell, *Medical Record*, November, 1895.

†Burnett System, Nose, Throat and Ear.

In the ordinary hypertrophic form of faucial inflammation, I have found the drug of little value, although it is occasionally indicated to relieve irritation in those cases, where fibrous tissue forms between the follicles on the posterior pharyngeal wall and causes a feeling of dryness and irritation, from compression of the superficial blood-vessels and glands, with resulting diminished mucous secretion in the parts. In these cases the drug is best used in the form of a twenty per cent. solution in olive oil, applied directly to the engorged tissues; or pastilles may be made, each containing a quarter of a grain of menthol, which the patient may dissolve in his mouth.

Frequently in hypertrophic pharyngitis the mucous membrane, on the slightest exposure to atmospheric changes, becomes intensely inflamed; when this occurs, the following formula, as recommended by Starr,* is of value:

℞	Oil pini canadensis	m. v.
	Oil eucalypti,	
	Oil gaultheria	āā m. ij.
	Thymol	gr. ss.
	Menthol	gr. j.
	Vaseline	q. s. ad ℥j.

Sig.: Spray on pharynx.

For its combined analgesic and anesthetic properties, menthol has been used in a number of pharyngeal affections, but especially in tuberculosis, herpes and erysipelas. With the first two of these diseases a strong solution is necessary, from fifteen to twenty-five per cent., and when the fauces are the seat of an erysipelatous inflammation, a four per cent. solution of cocaine added to a menthol solution of about the same strength will greatly relieve the intense pain when sprayed over the affected parts. The anesthetic and analgesic properties of menthol are so intimately blended, that for all practical purposes the use of the drug, as described above, will cover all the ground required; but there is one condition of the pharynx where the drug can be applied solely for its analgesic power, and that is in that protean manifestation of nerve force—parasthesia pharyngis. This condition, fortunately, is not very common, and when present, is generally due to some general disorder extrinsic to the pharynx. In a small number of cases the painful or perverted sensation is due to pathological alterations in the pharyngeal structures, and in these cases menthol is usually of some value. The strength of the solution used must depend entirely upon the personal equation of the case under treatment. It is useless to commence treatment with less that a ten per cent. solution locally applied to the sensitive portions of the pharyngeal mucous membrane, and in the more marked cases of parasthesia, the applications should be made every day; or if this is not possible, the patient may use lozenges, each containing from one-fourth to one grain of menthol.

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*Starr, American Text Book of Diseases of Children.

More or less allied to parasthesia pharyngis are the neuralgic affections of the throat, coming on without appreciable cause, without evidence of inflammation or any objective symptoms. In this class of nervous manifestations McBride recommends menthol in strong solutions. I have never seen a pure case of pharyngeal neuralgia, that is without some evidence of faucial disease; but the disorder occasionally occurs in pharyngitis sicca, and then menthol is the only drug with which I have had any success.

In my experience with menthol its power as a stimulant to diseased pharyngeal tissues has recommended it to me more than any other property it possesses. When used in atrophy or sclerosis of the mucous membrane, it is the drug *par excellence* in the armamentarium of the pharyngologist. Rarely failing to produce good results when used properly, it has in my hands been productive of much good for the relief of the dryness and irritation constituting the most marked symptoms in pharyngitis sicca. In all forms of chronic pharyngitis, specific or otherwise, where a stimulant is required, I can recommend menthol as superior to silver, carbolic acid, copper, or any of the host of unpleasant, irritating stimulants that are used.

When making local applications to the pharyngeal mucous membrane we must take into consideration, as far as is consistent with efficient treatment, the feelings of our patient. I have never yet seen a case that did not, more or less, object to the taste of carbolic acid when locally applied; and the same can be said, although in a less degree, when nitrate of silver is used. Let me illustrate by a case in point: Mrs. J., age thirty-two years, came to my office complaining of intense dryness and a feeling as if a foreign body was lodged in the throat. She had been receiving local applications of carbolic acid to the pharynx several times a week for six months, with but temporary relief, which ceased at the expiration of the treatment. In addition to this the carbolic acid caused intense nausea after each application, lasting for several hours. Visual examination showed the mucous membrane of the pharynx to be the seat of marked atrophy, absolutely devoid of secretion and with an irregular, glazed surface. The throat was sprayed three times a week with an ordinary alkaline, antiseptic solution, and a five per cent. solution of menthol was freely painted over the diseased tissues. The strength of the menthol solution was gradually increased, until, in a few weeks, I was using a twenty per cent. solution, with gradual diminution of the faucial dryness, and after a few applications the irritation producing the foreign body sensation entirely disappeared. The duration of the treatment in this case covered a period of about two months, when the patient considered herself well and has had no pharyngeal disorder since, although it has been two years since she received the last treatment.

In cases similar to the one just related, the following alterative-stimulant may be used when there is an increase of connective tissue with atrophy of the follicles and mucous glands:

℞ Iodine crystals .... gr. xxx.
Menthol,
Gum camphor .... āā ʒj.
Oil tar .... m. xxx.
Liq. vaseline .... q. s. ad ℥iv.
Sig.: Apply locally to pharynx.

I have endeavored in this paper to point out the general indications for the use of menthol in the various forms of pharyngitis. The drug is not a specific, but it undoubtedly occupies a place in the rational treatment of pharyngeal affections, and if properly used, especially for its stimulating effect, will be productive of good results.

3553 North Broad Street.

THE CLINICAL INVESTIGATION OF EAR DISEASES.

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PART II.

Physical Examination of the Ear.

Inspection of the Ear is most conveniently accomplished under the light reflected from a concave mirror attached to the observer's head by a spectacle frame or head band, and having an aperture in its centre opposite the observer's right eye, the source of light being either sunlight or an artificial light placed on the right hand side.

THE AURICLE

may present congenital *malformations* in the way of *deformities, fistulæ, imperfect development, etc.* In case of imperfect formation, hemiatrophy of the face and lower jaw should be looked for as indicating defective development of the structures originating in or about the cartilage of Meckel. Peculiarity in shape will often be noticed.

Acquired abnormalities may show themselves by changes in:

Color.—Skin diseases of various kinds.

Size.—Hematoma, a general swelling of the auricle without inflammatory disturbance, often traumatic. *Perichrondritis*, an inflammatory swelling preceded by acute inflammation in the external meatus. *New growths*, sebaceous tumors, warts, sarcoma, etc.

Surface.—Ulcerations, as from lupus, syphilis, epithelioma, Raynaud's disease, noma, etc.

Position.—Projection outwards, or outwards and downwards, from the side of the head, as in peri-auricular subperiosteal abscess.

THE EXTERNAL MEATUS

has to be inspected without a speculum before any attempt is made to introduce such an instrument, because if the meatus is the seat of an obstruction, and especially of a furuncle, the introduction of an instrument causes an amount of pain which is quite unjustifiable.

To examine the Meatus without a Speculum the auricle must be drawn upwards and backwards with the thumb and finger of one hand, while the tragus is held forwards with the other by means of the thumb, a probe, or a blunt hook. In very young children, on the other hand, the auricle must be drawn downwards and backwards.

To examine the Meatus with a Speculum the auricle should be drawn upwards and backwards with the middle and ring finger of the left hand, while the speculum is insinuated with the right hand and held in position with the thumb and index finger of the left. Two points to be borne in mind are, the *convexity of the floor*, and the forward and inward direction of the meatus causing *conspicuousness of the posterior wall.* The former is especially important in connection with the employment of instruments, as a thin film of cerumen on the floor may look like a solid ball, or a superficial redness of the skin may simulate an abscess, and incautious instrumental procedure might have most unfortunate results.

The meatus may be the seat of *complete obstruction*, as from congenital malformation, inflammatory swelling and formation of a diaphragm; from increased formation and retention of cerumen or epidermic scales; from polypi, granulations, or bony outgrowths, or from the presence of foreign bodies. It may be filled with pus or blood.

Partial obstruction may be of the nature of *general narrowing or stenosis* from skin-disease or general inflammation, or from bony outgrowth (hyperostosis), or of *cicumscribed narrowing* from furuncle or the protrusion of a mastoid abscess (N.B., the anterior boundary of the mastoid cells and antrum forms the posterior wall of the meatus), periostitis, flakes of cerumen, granulations, small polypi, exostoses, etc. The outer part may be *collapsed* from senile changes in the lower jaw, the aperture taking a slitlike form.

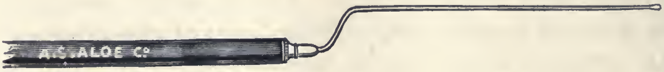

Figure 5.

The nature and site of growth of some of these obstructions can only be made out by careful use of the *probe* (Fig. 5): a fine silver instrument, so curved that the hand holding it like a pencil may not obscure the view, is desirable. In its use, it is important to remember that the *length of the meatus*, from the posterior margin of the external orifice to the membrane, averages 24 mm., nearly 1 inch. By its means the presence of caries, necrosis, fistulæ, and tender spots may be detected.

Removable bodies may have to be expelled by means of the *syringe*, directed along the roof of the meatus, straightened as already decribed, or of a fine *hoe* (Fig. 6), or of delicate *forceps*.

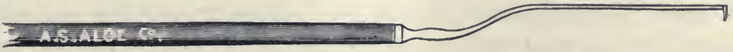

Figure 6.

THE MEMBRANA TYMPANI

should, under normal circumstances, be now visible, and answer to the following description: The normal membrane is somewhat oval, measuring 9 mm. ($\frac{9}{25}$ inch) in its longest diameter, of pearly-gray tint, set in a bony frame discernible all round, except at the upper part, where there is a notch — the notch of Rivinus. The anatomical features of present clinical interest are indicated in the accompanying diagram (Fig. 7).

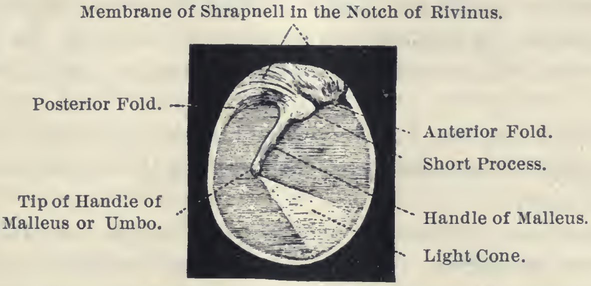
Membrane of Shrapnell in the Notch of Rivinus.
Posterior Fold.
Anterior Fold.
Short Process.
Tip of Handle of Malleus or Umbo.
Handle of Malleus.
Light Cone.

Figure 7. Semi-diagrammatic view of the Tympanic Membrane.

It will be seen that the handle of the malleus runs downwards and backwards to the centre of the membrane, and that at its upper part is a very conspicuous projection, the *short process*—a most important landmark. Forwards and backwards from a little above the process run the anterior and posterior folds which separate the small upper flaccid portion of the membrane—membrane of Shrapnell, or *membrana flaccida*—from the main portion of the membrane—*membrana tensa*. From the tip of the malleus runs downwards and forwards a triangular shiny spot—the *light cone.* It will be remembered that the membrane is placed obliquely across the meatus, so that if it were perfectly flat it would reflect all light thrown upon it on to the anterior wall and floor of the meatus, and none directly back to the observer's eye. It is not perfectly flat, but drawn inwards at the umbo by the tensor tympani, so that a triangular portion at the lower and anterior part is at right angles to the line of sight, and therefore reflects the light directly back. This part therefore appears distinctly luminous, and constitutes the light-cone. It is an important rule that *any point* *which appears brightly illuminated is at right angles to the line of sight.*

The Membrane in Disease may vary as follows:

Color.—It may present *general dull redness* in extreme congestion, especially when combined with inflammation of the external ear; or it may be *congested round its margins and along the handle* of the malleus, as in the lesser forms of external or middle ear catarrh; or it may present a *bright coppery lustre* when a congested condition of the tympanic mucosa is seen through a still transparent membrane—the earliest appearance of acute catarrh of the middle ear. It may be *raw and granular* after the removal of a desquamating layer of epidermis. A limited area of *redness in postero-superior quadrant* is not infrequent in disease focussed in the neighborhood of the tympanum and mastoid antrum. Circumscribed *yellow or white patches* of degeneration (fibrous or calcareous) usually indicate previous inflammation of the membrane. A single or double *black line* crossing the membrane horizontally is often visible when the tympanum is partially filled with fluid.

Lustre.—A general dullness, with loss of light-cone, may result from superficial inflammation of the outer layer — cloudy swelling of the outer layer.

Indistinctness of Features results from further thickening of the outer layer burying the visible portions of the malleus, which lies in the middle layer of the membrane beneath the outer one.

Surface.—The surface may be irregular from the projection of granulations, polypi, vesicles, interstitial abscesses, pouches, herniæ of the mucus layer through the middle and outer ones. It may be wrinkled, owing to abnormal thinness, either from atrophy or from the presence of large loose cicatrices like gold-beaters' skin (*vide* "Suction-Speculum").

Indrawing or Retraction may be general or circumscribed. *General* retraction is usually the result of non-ventilation of the tympanum and absorption of the contained air. This is generally caused by obstruction of the Eustachian tube from catarrhal or other changes. The appearance of the retracted membrane is very characteristic. The yielding parts are depressed, and the unyielding parts are thrown into abnormal relief, while other parts are foreshortened.

The main part of the membrane is much depressed, as is seen most distinctly in the portion in front of the malleus where the shadow is very deep. The anterior edge of the manubrium shows up with abnormal sharpness; the short process sticks out like a miniature hat peg, and the manubrium itself appears shorter and more horizontal than in the normal condition. The anterior and posterior folds are unduly prominent, and in the postero-superior quadrant the membrane is often so closely opposed to the incus and stapes that the descending limb of the former and the posterior crus and muscle of the latter are quite easily distinguishable. The light-cone is more diffuse and less distinct toward the periphery of the membrane than usual.

Circumscribed Retraction is the result of the indrawing of *thin cicatrices* after the healing of perforations extending over small or large areas of the membrane, but usually having definite margins, or of *atrophic* areas with ill-defined margins resulting from dry chronic inflammation. The former may be loose or fixed, and are apt to be mistaken for existent perforations (*vide* "Suction-Speculum" and "Inflation of Tympanum"). This often occurs in the postero-superior quadrant just below the posterior fold. *Bulging* without material alteration in color can generally be recognized after careful study of the lights and shadows, but without this the distinction from retraction under uniocular inspection is not always easy. In case of distension with pus, the bulging parts behind and in front of the manubrium leave that bone in the bottom of a groove, and present a yellowish tint at their most prominent parts. The most characteristic appearance in acute or purulent inflammation of the middle ear is that of a bright-red globular mass, more or less beset with small flakes of desquamated epithelium, completely filling the fundus of a narrowed meatus, and (after perforation) swamped in muco-pus. It usually consists for the most part of the postero-superior quadrant of the membrane, and occasionally of Shrapnell's membrane only, and as the swelling subsides it resembles a large granulation or small polypus.

Perforations may vary in size from a pinhole to absence of almost the whole membrane.

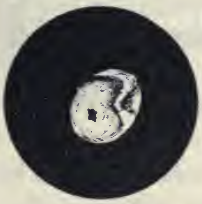

Figure 8.
Small Perforation.

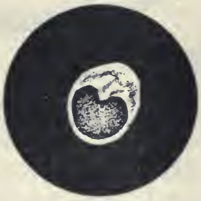

Figure 9.
Large Reniform
Perforation.

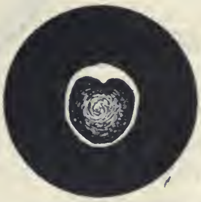

Figure 10.
Absence of almost the
whole Membrane.

The above are typical appearances of *perforations in the membrana tensa.* The character of the margin must be noted—whether red and raw, as in recent active perforations with possibility of healing and closing, or *white* and cicatricial, as in permanent ones, or "terraced" inwards, a rarely observable indication of a perforation commencing externally. The perforation must be distinguished from the margins of sunken cicatrices—the mouths of cicatricial pockets—by the suction-speculum and inflator (which see). The objects on the inner wall of the tympanum may be exposed, such as the promontory with its ramifying vessels, the descending process of the incus and the stapes, and occasionally the niche in which lies the fenestra rotunda. Often the mucous membrane of the inner wall is swollen, and projects outwards so much as to simulate a polypus, or a granulating membrani tympani, from which it has to be distinguished by means of the probe. The presence of white shreds protruding from the upper part of the perforation, and repeatedly re-forming after removal, indicates a desquamating process in the upper part of the tympanum, and the probable development of "cholesteatoma" in some of the accessory spaces.

Perforations in Shrapnell's Membrane, indicating disease in the "attic," are not infrequent, but are apt to be overlooked, and are often covered by a crust of inspissated secretion. Through them may often be seen masses of desquamated epithelium, and sometimes a portion of the head and neck of the malleus, which may be carious. They often co-exist with a permanent perforation of the membrana tensa.

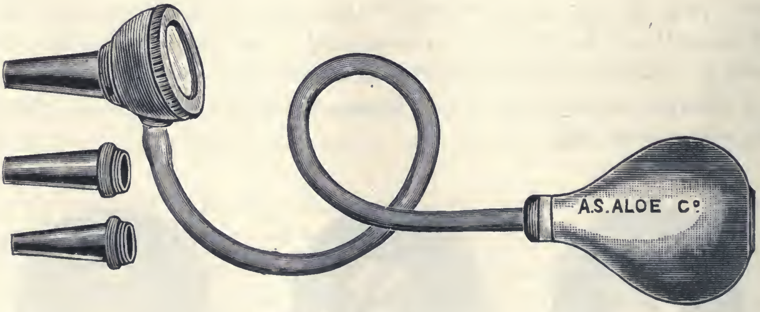

Figure 11. Siegel's Speculum.

The *Suction-Speculum* (*Siégel's Speculum*) consists of an aural speculum widened out at its large end and fitted with a plane, or magnifying, glass. An india-rubber tube is attached to its side, and when the instrument is introduced tightly into the meatus the air can be sucked out through the tube by means of the mouth or a thick air-ball. The latter is preferable, but it must be of considerable strength (Fig. 11). By its means the *mobility of the malleus* and the degree of *relaxation of the membrane* can be distinguished. The mouths of sunken *cicatricial pouches* can be diagnosed from *open perforations*, and *adhesions* of the membrane or of sunken cicatrices or other parts to the inner wall of the tympanum can be made out. Collections of *pus in accessory cavities* may often be detected and emptied by means of this instrument. Its *special diagnostic use* is in the detection of impaired mobility of the ossicles, and of relaxation of the membrane.

THE PERIOTIC REGION

must be examined. The *supra-auricular* segment is often the seat of subperiosteal abscesses, both in the adult and in the child. In the child, pus may find its way out through the still patent squamosa-mastoid suture, and burrow upwards. (It is interesting to note Gruber's rule that counter-openings in case of abscesses at or above the level of the upper-third of the auricle should be made in the roof of the meatus.)

The *præ-auricular* or *parotid* region may be the seat of lymphadenitis, parotitis, or pus-burrowing.

The *infra-auricular* region is habitually the seat of swelling and tenderness from *lymphatic inflammation* in acute inflammatory affections of the external ear. In disease of the internal jugular vein (from phlebitis of the lateral sinus) a swelling may be found running from this region down the side of the neck. Burrowing of pus from an abscess in the mastoid process having found vent on the inner aspect (Bezold), may also cause a swelling in the lateral cervical region—one form of "cervical cellulitis" comparable to a form of "retropharyngeal abscess" arising from the same cause. Pressure on such a swelling after opening of the mastoid would cause pus to well up.

The *post-auricular* or the *mastoid* region must in all cases, especially those characterized by pain or suppuration, be examined with care. It may be red, swollen, tender, painful, or the seat of sinuses or cicatrices. It must be noted whether the *swelling* is *circumscribed* and mobile, as in case of an inflamed gland, diffused or *shelving*, as in periosteal abscess, etc. The *point of greatest tenderness*, as *on* or *behind* the process, is important, as it will be remembered that in disease of the lateral sinus there may be tenderness behind and particularly at the seat of the mastoid foramen. *Intense pain*, deeply seated in the mastoid region, possibly without superficial evidence of inflammation, is present in cases of abscess or cholesteatoma in the antrum or mastoid cells. Its clinical significance depends upon its association with acute or else long-standing otitis, and with severe constitutional disturbances, the inflammation in acute cases being usually limited to the cervical cells (Politzer), while in the chronic ones the antrum is almost universally involved. It is often, however, only after opening the mastoid process that the exact nature and limits of the inflammation can be defined, or further evidence of a *subdural abscess* of *other intra-cranial* disease may be forthcoming, and call for more extensive operative interference. Severe attacks of pain in the mastoid process, without inflammatory constitutional disturbance, constitute *mastoid neuralgia*, which, when occurring in the subjects of former local inflammation, often indicate chronic ostitis curable by the chiseling away of a superficial layer of bone. *Fistulæ and sinuses* require special attention. Those of *congenital* origin are generally in the præ-auricular region, and associated with other malformations. *Acquired* ones are mostly in the post-auricular area, and may lead to the remains of a superficial (glandular) abscess, to the periosteum, to the bone below the periosteum, or to the interior of the petrous bone. They may run forwards simply to the meatus, but they sometimes lead into the groove for the lateral sinus or the cranial cavity. Pouting granulations at the orifice of a fistula sometimes arise from the dura mater. (The probing and syringing of fistulæ, especially if at an unusual distance behind the auricle, should not be practiced without the greatest caution.)

THE VENTILATING APPARATUS,

namely, *The Eustachian Tubes and their Approaches*, should now be examined.

THE NOSE, PHARYNX AND NASO-PHARYNX

call for detailed investigation. The following *special points* may be here noted:

(1) In the examination of the fauces the *activity of the palatial muscles* (which are also tubal muscles) during phonation.

(2) The appearance of the naso-pharynx and Eustachian tubes by *posterior rhinoscopy*, a proceeding which we find most readily carried out early in the interview and before much manipulation has been practiced.

(3) The *patency of each nostril* in relation to respiration, ventilation, and Eustachian catheterization.

THE EUSTACHIAN TUBE

may be tested as regards its patency by means of *inflation* by Valsalva's method, Politzer's method (or one of its modifications), or the Eustachian catheter, while the examiner listens with an india-rubber diagnostic tube, the ivory extremities of which are inserted into his own and the patient's ear. In rare, doubtful instances the skilled manipulator may use *Eustachian bougies;* but in view of the possibility of mistaking "kinks" for strictures, their diagnostic value is very slight, although their judicious therapeutic employment is often indispensable.

Valsalva's Method.—The patient pinches both nostrils firmly and makes an expiration as if to blow the nose, but without letting the air issue from the nostrils. The air is thus driven up the Eustachian tube, and if it is heard to enter the tympanum — normally a sound like "pick" is heard—it may be assumed that the tubes are freely open. During this process it is advisable for the patient to open his mouth widely.

Politzer's Method.—The patient holds a little water in his mouth, and the observer places the tip of a "Politzer Bag" — a six-ounce india-rubber enema bottle with a conveniently adapted tip—in the nostril. The patient swallows at the word of command, and the surgeon then compresses the bag firmly while closing the other nostril. During deglutition the palate is raised, the Eustachian tube is opened, and the air has no outlet from the nose except through that tube. Loewenberg advises that the compression should be practiced at the moment when the larynx rises in swallowing.

The Writer's Modification of Politzer's Method consists in making the patient blow vigorously with distended cheeks through a very narrow-bored tube while inflation is practiced. This, if not so widely applicable as Politzer's, is well worthy of preliminary trial in every case, as being in many respects easier and more pleasant.

The *Eustachian catheter* in its most practical form is a metal or vulcanite tube, about five inches in length, presenting the following well-known appearance: Its last inch is gently curved till the point is directed at an angle of about 45 degrees to the shank. The point must be well rounded and free from all sharp edges. The outer end is funnel-shaped, so as to receive the top of a small india-rubber bottle, and it has on it a ring pointing in the same direction as the tip of the catheter. In use it is passed along the floor of the nose into the naso-pharynx, and the point is turned outwards and upwards in the the direction of the external meatus, the orifice of which is nearly on a level with that of the Eustachian tube. When the point is just inside the orifice of the tube, air is blown in by means of an india-rubber bottle, and its entrance into the tympanum is listened for by means of a diagnostic tube as before.

Several *important points* are to be kept in mind:

(1) A *nasal speculum* should invariably be used on the first occasion, especially by inexperienced operators, and the catheter should be introduced through this under good illumination. In nervous sub-

jects, or in case of rhinitis, cocaine should be previously applied inside the nose. The tip of the nose should be lifted up, and the head should be held in such a position that the *inferior meatus is horizontal.*

(2) Using the *palate as a landmark,* the catheter should be passed into the pharynx with the point downwards. The patient is then ordered to breathe through the nose, so that the soft palate may droop. The posterior margin of the hard palate is then very distinct, and the hook of the catheter is drawn forward so as to hug it. The beak has now only to be turned outwards and upwards, and in most cases may be introduced into the mouth of the Eustachian tube, especially if the patient performs at the same time the movement of swallowing.

(3) Using *the posterior lip of the Eustachian Tube as a landmark,* the catheter is pushed right back to the posterior wall of the pharynx, its beak is then turned outwards and slightly upwards into Rosenmuller's fossa, the hollow behind the Eustachian tube. It is then pulled forwards till it is felt to pass over the more or less pronounced posterior lip of the tube. If a vulcanite instrument is used, there is sufficient "give" to make the proceeding practically painless, but with a metal catheter it is advisable to turn the beak slightly downwards as soon as the lip is felt, so as to "round" the swelling rather than drag the point of the instrument over it.

(4) Using *the septum as a landmark,* the beak of the catheter in the pharynx is turned inwards and hooked on to the back of the septum, being pulled forward so as to press it. The instrument is held at this depth and then rotated so that the tip traverses nearly half a circle in the naso-pharynx, and comes to point outwards towards the auditory meatus.

(5) *When one nostril is very much obstructed,* the other is usually sufficiently patent to permit of the passage of a catheter with a very long beak, bent so as to point at right angles to the shank of the catheter. It is surprising how easy it is to direct this towards the tube of the obstructed side and to inflate the tympanum through it.

(6) *In cases of cleft palate* it is easier to pass the catheter through the mouth. Mr. Cresswell Baber has recommended the use of specially bent Eustachian catheters by this passage, even in cases of normal palate.

THE POINTS TO BE NOTED IN CONNECTION WITH INFLATION are: (1) The degree of patency of the Eustachian tube; and (2) the effect of inflation on the hearing power and symptoms.

(1) *The patency of the Eustachian tube* is judged of by the readiness with which the air is observed to enter the tympanum. This presupposes some familiarity with the sounds produced by the process *in*

the normal ear, when the air enters the tympanum at once with a full stream and forces out the membrane with an easily audible "pick." Patency is then normal, or ±. When the *tube is narrowed* the air passes with difficulty, there is a murmur of abnormally high-pitch, and it is only after a little time that it is heard to enter the tympanum. Patency is then diminished, or —. When the *tube is impervious* "patency" is absent, or —∞.

(2) *The effect on the symptoms*, especially *hearing*, *tinnitus*, or *pain*. *Improvement* in general may be noted as present, absent or conspicuous by its opposite, deterioration taking place. Thus: "improvement" +, ±, or —. It is, however, better to note the effect on the chief symptom. Thus the hearing distance for the watch after inflation may be compared with what it was before, the new distance being noted after the observation on patency. Similarly tinnitus, or pain may be diminished —, or increased +, or unchanged ±, or entirely removed —∞.

THE DIAGNOSTIC VALUE OF INFLATION

lies in the comparison of the patency and the effect produced; thus:

Patency much diminished and improvement on inflation very considerable would indicate a narrowing (catarrhal) of the Eustachian tube without significant tympanic disease.

Patency much diminished and improvement on inflation very moderate would indicate simultaneous affection of the tube and tympanum in the more favorable exudative form of chronic catarrh of the middle ear.

Patency normal and improvement on inflation little or none would indicate a primary affection of the tympanum, as in the obstinate dry or sclerotic form of chronic catarrh.

Patency normal and hearing made worse by inflation are found in cases of healthy middle ear, as in pure nerve-deafness.

Immense improvement on inflation followed by speedy or almost immediate return to the previous degree of dullness of hearing is characteristic of relaxation of the membrane.

In cases of perforation of the membrane a distinct hissing or whistling sound is usually heard on auscultation during inflation—the "perforation sound."

The appearance of the membrane is often altered after inflation, an indrawn membrane being forced into its normal position, and a relaxed one bulged out to an abnormal degree. Similarly depressed cicatrices may be driven out more or less completely according as they are free or bound down by adhesions, very much as when the exhausting speculum is employed.

GELLE'S TEST.

Centripetal pressure consists in compressing the air in the meatus by means of a firmly fitting "Politzer-bag," while a vibrating tuning-fork is placed on the vertex. In the normal subject the sound dies away during the compression and returns on its removal. This is believed to indicate that the stapes moves freely in its fenestra, and Gellé's test is "positive" +; otherwise it is "negative" —.

Binaural Synergy.—This test, also introduced by Gellé, is practiced by holding a vibrating tuning-fork opposite the other ear, while compression is exercised as above in the ear under examination. In the normal subject the sound of the tuning-fork becomes faint and inaudible during the compression, but returns on its removal (always assuming that the vibration of the tuning-fork has not diminished below normal audibility). This is ascribed to a synergic contraction of the opposite tensor tympani reflected through an "oto-spinal" centre in the medulla. The results may be readily noted as "positive" or "negative," but the interpretation is much hampered by the obvious sources of confusion arising from possible disease of the middle ear causing immobility of parts, or of the labyrinth of one or other side. In doubtful cases the test should not be omitted.

CLINICAL REPORTS.

A FATAL CASE OF SARCOMA OF THE NOSE.

BY W. SCHEPPEGRELL, A.M., M.D.

Vice-President of the American Laryngological, Rhinological and Otological Society;
Chairman of the Section on Otology, Laryngology and Rhinology, Louisiana
State Medical Society; Vice-president New Orleans Electric Society;
Member of the Societé Francaise d'Otologie et de Rhinologie, etc., New Orleans.

Theodore L., age 56, white, applied at the Eye, Ear, Nose and Throat Hospital, May 10, 1893, for an obstruction of the left nostril. The patient stated that for several months past he had felt an irritation in his nose, which he thought was due to "catarrh." An anterior rhinoscopic examination showed the left nostril filled with a granulation-like mass, which bled easily when touched with the probe, the mass being sessile and springing from the quadrangular cartilage; the septum on the right side was also partly covered with a similar mass, although no communication between the two nostrils could be found. By posterior rhinoscopy, the extremities of the turbinals were found somewhat congested, but no part of the neoplasm could be seen. A small part of the tumor was removed by means of the cold-snare, which was followed by considerable hemorrhage.

The microscopic examination, made by Dr. Henry Dickson Bruns, showed that the tumor was a round-cell sarcoma. The patient did not return until a week later, and it was found then that the tumor had grown rapidly and was showing its malignancy. The nostrils were somewhat dilated, and the nasal bones had become softened; the indications for an immediate operation were positive, and it was decided to remove the diseased area by means of a Rouge's or other external operation. The importance of a prompt operation was explained to the patient, who promised to consult his wife and return the next day. The patient was not seen again until September 23 (four and a half months), when his face presented the marked deformity shown in the figure.

He explained his long absence by stating that he and his wife were afraid of any operative procedure, and he had then gone to a "medical institute" (?), where he had been informed that he was suffering only from "catarrh," and would be "cured" in a few weeks. The weeks had gone into months; and, as he found that instead of getting better he was daily becoming worse, he had decided to return for the operation.

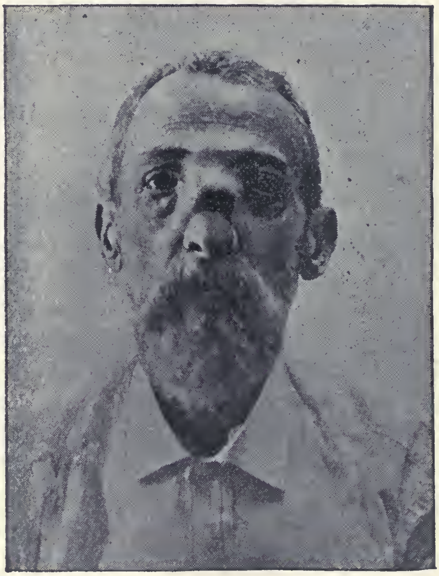

FIGURE 1. Sarcoma of both Nostrils, originating from the Septum of the Nose.

During the four months of his absence, the disease had made marked developments; the forehead and region of the frontal sinus were dilated, showing that this region had become infected, and there was marked exophthalmos. The nasal bones had been absorbed, and this region was covered with a large soft swelling which extended to both sides of the face anteriorly; both nostrils were occluded with the sarcomatous mass, and by the rhinoscopic mirror the neoplasm could be seen in the naso-pharynx. The patient was very feeble and markedly cachectic.

After a consultation of the surgeons of the hospital, to which Dr. Rudolph Matas was invited, it was decided, in view of the condition of the patient and the extent of the disease, that the operation was no longer justifiable.

The patient disappeared from sight; but a year later I heard, through an accident, the conclusion of the history of this unfortunate case. Leaving the hospital, the patient had gone to a woman, who was known as a "cancer doctor," who had given him a paste which he was directed to apply to the diseased parts of his face and not to remove it for three days. The patient tried to follow the advice, but after two days of excruciating agony he was compelled to remove the paste and with it came all the superficial parts, leaving a large hole in which could be seen the teeth and part of the superior maxilla. On account of the opening through the cheek, the patient could take food only with the greatest difficulty, and he died ten days later from exhaustion.

Sarcoma of the nasal passages is of rare occurrence, and Bosworth was able to collect only 41 cases. As a microscopic examination was not made in all of these cases, it is not certain that this number is correct. The analysis of the reported cases would seem to indicate that about one-half of the cases recovered, although it is probable that the prognosis is not quite so favorable, as the knowledge of the subsequent history of many of these cases is not sufficiently definite to warrant the conclusion that the disease had been radicated.

There is no question, however, as to the importance of prompt surgical interference in these cases; and the above history illustrates how a case which, when first seen, still offers a certain amount of success in treatment, can by delay become so aggravated as to become hopeless from a surgical standpoint.

Medical Building.

FATAL HEMORRHAGE FROM THE NOSE AND PHARYNX FROM UNUSUAL CAUSE; WITH EXHIBITION OF SPECIMEN.*

BY ROBERT LEVY, M.D., DENVER, COLORADO.

Professor of Laryngology and Physiology of Gross Medical College; Laryngologist to St. Luke's, St. Anthony's, and Arapahoe County Hospitals; Fellow of the American Laryngological, Rhinological and Otological Society; President of the Colorado State Medical Society, etc.

The following case illustrates a source of hemorrhage which, so far as the author knows, is in some respects entirely unique in otological and rhinological literature.

H. W. C., aged 24, male, by occupation a miner, was admitted to the Arapahoe County Hospital, May 1, 1896. His family history was negative, his personal history unimportant. At the Cripple Creek fire, April 24, during an explosion, he was struck on the left jaw, causing a severe hemorrhage from the nose. He was carried to the side of a hill where he lay for several hours, during which time the hemorrhage continued. He finally fainted and does not know how long he remained in this condition. Upon admission to the hospital a careful examination revealed no fracture of the jaw, but considerable contusion of the soft parts. His condition rapidly improved without especial treatment, and on May 4 he was discharged at his own request (Dr. A. H. Williams, house surgeon). May 9, he was admitted to St. Luke's Hospital very weak, anemic; lips, conjunctiva and skin blanched. Since leaving Arapahoe County Hospital he had had several serious hemorrhages from the nose and pharynx. His posterior nares contained plugs which had been placed there two days previous to his entrance into St. Luke's Hospital. The plugs were allowed to remain until May 13, when on account of the pain, odor and increased temperature—$102\frac{4}{5}$°—they were removed. He gradually improved, his temperature became normal, appetite returned, he gained in flesh, etc. On May 24 he was allowed to dress and move about. After two days he began complaining of pain in the left ear and progressive deafness. The pain was at first localized to the floor of the meatus, but subsequently spread to the mastoid process and to the area immediately in front of the ear. His temperature gradually rose to 102⅕°. He was put to bed and was examined by Dr. J. M. Foster, who found nothing abnormal in the appearance of the meatus, the external auditory canal, or the membrana tympani. Several small hemorrhages from the nose occurred during this time, but were easily controlled by pressure and plugs of cotton in the anterior nares. On June 1, the pain ceased, the temperature fell to 99°, and a small amount of discharge exuded from the ear. At 4 A. M., June 2, while turning in bed, the patient had a severe hemorrhage from the nose and throat (Dr. S. Bell, house surgeon).

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*Read before the Colorado State Medical Society, June, 1896.

I was first notified of the case at this time, and ordered plugging with cotton, saturated in peroxide of hydrogen. Upon my visit to the hospital a few hours later, I found the hemorrhage had ceased, but patient complained of large clots in naso-pharynx, which were continually being swallowed. The patient's appearance was that of one nearly ensanguinated. Absolute quiet was ordered; a nourishing liquid diet; strychnia and iron and saline enemata. For several days the improve- was rapid, but the past history of the case warned us to be extremely cautious in allowing the patient to move about. In spite of the most stringent orders, the patient, who was an unruly one, managed surreptitiously to leave his bed on the morning of June 8th. He walked a distance of fifteen or twenty feet, whereupon a violent hemorrhage took place. He immediately went into collapse, and died the same day at 9:25 p.m.

An autopsy held by Dr. E. R. Axtell. revealed the following:

"No blood in the meningeal vessels; dura mater not adherent; a small long white clot in the superior longitudinal sinus, but no thrombus; in the middle fossa, at the suture of the temporal and sphenoidal bones, posterior to the foraman ovale, there showed through the meninges from above a discolored area the size of half a cent. On reflecting the membrane at this point, there was found a small collection of grayish-brown, purulent disorganized material at the opening of and filling the foramen spinosum, which opening seemed larger than normal and irregular in outline. A probe was introduced and passed forward, downward and to the right, and was felt by the finger in the mouth to touch the upper part of the soft palate."

The course of the probe was evidently through the Eustachian tube, the septum between the foraman spinosum and the Eustachian tube having been destroyed. Further examination revealed the existence of a purulent otitis media. involving to a slight degree the mastoid antrum, the roof of the middle ear, and extending forward to the anterior portion of the petrous bone. Necrosis in this course had taken

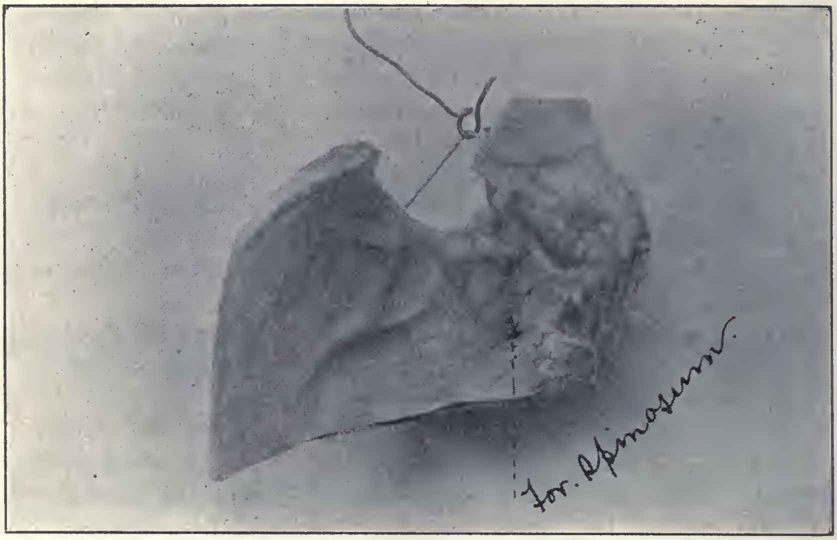

FIGURE 1. Showing foramen spinosum enlarged and of irregular outline, due to necrosis.

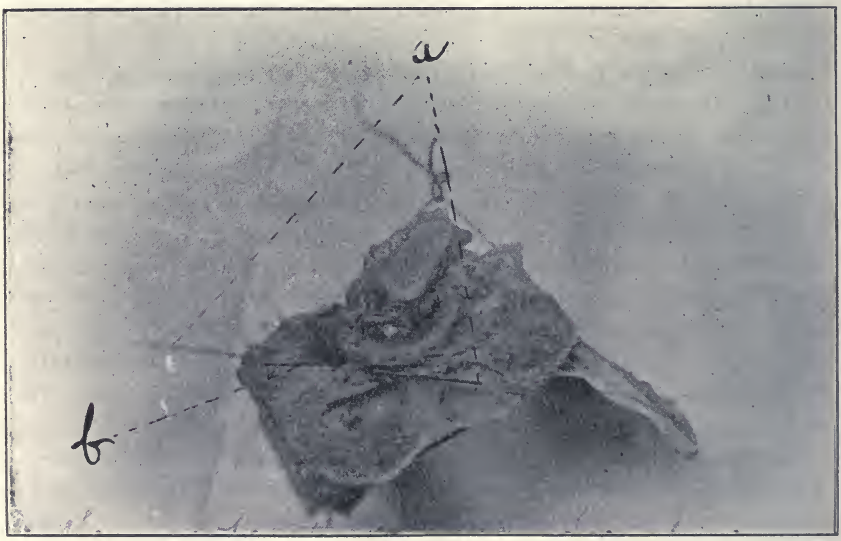

FIGURE 2. Showing penetration from For. spinosum into Eustachian tube. Wire *a* passes through Eustachian tube. Wire *b* passes from For. spinosum into Eustachian tube, crossing wire *a*.

place, the process continuing into the foramen spinosum, and from there into the Eustachian tube. The middle meningeal artery, which passes through the foramen spinosum, had been eroded to such an extent that where the opening, communicating with the Eustachian tube, was discovered, the vessel seemed completely disorganized. The source of the hemorrhage was therefore clearly from the middle meningeal artery through the Eustachian tube into the naso-pharynx. The membrana tympani not having been ruptured, explains why there was no hemorrhage from the external auditory canal.

The accompanying cuts illustrate the necrosis in the Foramen spinosum (Fig. 1), and the relation of the Eustachian tube to the course taken by the necrotic action (Fig. 2).

It is interesting to consider the cause of the suppurative otitis, in view of the traumatism which was associated with violent hemorrhage, and in view of subsequent developments. Whether the disease was of long standing, the final perforation of the artery taking place coincidently with the severe blow, or whether the original hemorrhage was from a different source, the otitis suppurativa being the result of the plugging of the posterior nares, must remain a matter for conjecture.

It is not for the purpose of discussing this interesting question that the above case is here reported, but rather for the purpose of placing upon record a case of extreme rarity.

Fatal hemorrhage from suppurative otitis media, followed by necrosis and perforation of the internal carotid, are not frequent. Politzer, however, has collected nineteen cases. But hemorrhage from the middle meningeal, occurring in the course of otitis suppurativa and in the manner illustrated by this case, must be of the extremest rarity.

RHINOLITH, WEIGHING SEVENTY-SIX GRAINS, IN A CHILD TEN YEARS OF AGE.

BY J. A. STUCKY, M.D., LEXINGTON, KY.

Member of Ky. State Med. Society; Lexington and Lafayette County Med. Society; Central Ky. Med. Society; Ex-President American Rhinological Society; Member of American Medical Association; Fellow of American Laryngological, Rhinological and Otological Society, etc., etc.

H. L. W., æt. 10 (negro), was brought to me in February, 1896, to have some obstruction removed from the left nostril. On tilting the nose upwards with my finger, a large offensive mass was seen, completely blocking up the nasal opening. The eye-lids were swollen, tears flowing down the cheek. The entire left side of the face was extremely sensitive to touch, especially over region of antrum of Highmore. The nostril was sprayed with alkaline antiseptic solution, and a quantity of very offensive pus removed. On using the nasal speculum, a large irregular mass, of grayish-black color, was seen to fill the nostril; neither the anterior nor middle turbinate could be seen or touched with the probe.

A diagnosis of rhinolith, extending into maxillary antrum, was made. The history given by the mother of the child was unsatisfactory. She said the trouble was first noticed in the nose several years ago. A physician was consulted, who told her the child had catarrh; and he gave her a wash which, he said, would cause her to sneeze out the obstruction, and nature would effect a cure. There was no history of the child ever getting a foreign body in the nose. The nostril had been stopped up, and the breath had been very offensive for more than a year. She continued to grow worse, though she had been under treatment of several physicians for more than a year. She complained frequently of pain in left eye and cheek, and both were always swollen when she got up in the morning. The irregular shape and size of the mass rendered its removal through the nostril (notwithstanding its characteristic African shape—large, flat and patulous) impossible, without making an external excision; so I determined to remove it by piecemeal. After thoroughly cocanizing the parts, after several attempts with strong forceps I succeeded in crushing the mass and removing it with hook and nasal forceps. The largest pieces weighed from ten to sixteen grains each. The weight of all removed, not including that that was blown out and washed out, was seventy-six grains.

There were no marks left of the inferior turbinate; I suppose, as the result of pressure and by suppuration, it had been absorbed. The anterior half of the middle turbinate had sloughed away, the posterior half being in a state of necrosis; this was removed with cutting forceps and cold-snare. The nasal wall of the antrum of Highmore was broken down, and this cavity filled with polypoid granulations. The antrum was thoroughly curretted, with Myles' malleable currettes, of all polypoid tissue, and all evidence of necrosis removed. There was free bleeding, which lasted but a short time and stopped spontaneously. After cleansing the cavities with antiseptic solutions, they were packed with iodoform gauze. The patient was kept under observation for some days. She made a rapid recovery, and required no other treatment than cleansing with spray of alkaline antiseptic. A careful examination of the stone removed gave no evidence of a foreign body as a nucleus, and I conclude this was a typical rhinolith. The child showed no evidence of struma, syphilis or tuberculosis, and aside from the local trouble was in good health.

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EDITORIAL.

RESPONSIBILITY.

Authors alone are responsible for the views expressed in all signed articles. The Editors alone are responsible for all unsigned articles in whatever department they may appear.

PROGRESSION.

At the recent annual meeting of the Maine Medical Association, Dr. E. E. Holt, of Portland, introduced a resolution to the effect, that it be the sense of the Maine Medical Association that five years should be devoted to the practice of medicine, either in general practice, hospital or laboratory work, before a specialty should be practiced. Such sentiments deserve the support of every progressive scientist; it guarantees a raising of the standard, not only of general medical education, but of the individual specialties.

ANTITOXIN VERSUS CONSERVATISM.

The natural accompaniments of a progressive measure have been growing into prominence of late. A vigorous protest against the employment of diphtheria antitoxin is announced from various quarters, and is conducted by some of our older professional confréres who have not been entirely converted to the bacteriological atmosphere of the present day. Some of our contemporaries are publishing interesting articles on the antitoxin treatment, which are, however, for the greater part, the reports of single fatal cases, or failures following the use of antitoxin.

We must admit that the various antitoxins and serums, which have been introduced in such quick succession, many with indifferent therapeutic results, have contributed much to shake the faith of some of our conservative colleagues in the efficacy of the diphtheria antitoxin. The amassed statistics, however, gathered from all parts of the scientific world, can leave no doubt in the minds of even the most conservative, of the effectiveness of diphtheria antitoxin, be it employed early or late, in old or in young, in severe or in mild cases, in hospital or in private practice—the verdict has been, with but rare exceptions, "success."

DIPHTHERIA AND ITS ANTITOXIN.

After a two years' study of the action of antitoxin in diphtheria, and after its general use to an extent that is almost unrivalled in the history of medicine, it is interesting to note that there are still two almost diametrically opposite opinions regarding its use. While the report of the American Pediatric Society, the summary of whose collective investigation is published elsewhere in this journal, is decidedly in favor of serum therapy in this disease, Dr. Elmer Lee, the vice-president of the American Academy of Medicine, publishes an article entitled "The Fallacy of the Antitoxin Treatment as a Cure for Diphtheria," in which he positively condemns its use, not only as ineffectual but as absolutely dangerous.

While in the report of the American Pediatric Society it is stated that "the most convincing argument, and to the minds of the committee an absolute, unanswerable one, in favor of serum therapy, is found in the results obtained in the 1,256 laryngeal cases. In one-half of these recovery took place without operation, in a large proportion of which the symptoms of stenosis were severe—the mortality obtained being less than half as great as has ever been reported by any other method of treatment."

Dr. Lee, on the other hand, states that "the records of the cases treated in the Willard Parker Hospital, of New York City, proves that antitoxin is dangerous and even fatal. The statistics of this hospital establishes that the further use of antitoxin is unjustifiable." Prof. Lennox Browne, of London, patiently and earnestly sought for clinical reasons to further the interests of antitoxin, but his conclusions are emphatic and pronounced against it.

Dr. Fletcher Ingalls, of Chicago, read an article before the Illinois State Medical Society, May, 1896, in which he gives a careful and elaborate review of the use of antitoxin in diphtheria, and concludes with the statement that antitoxin has certainly not proven a specific for diphtheria, and earnestly warns against too much reliance in its use to the exclusion of other remedies.

It is clear, therefore, that the necessity for further investigation in the use of diphtheritic antitoxin is evident, and the action of the American Pediatric Society in appointing a committee to continue the work for another year, with instruction to obtain all available information on the subject, is to be commended. In such a manner alone can the true value of serum therapy in diphtheria be established.

SCHEPPEGRELL.

AMERICAN PEDIATRIC SOCIETY.

COLLECTIVE REPORT ON DIPHTHERIA ANTITOXIN.

Our esteemed contemporary, *Pediatrics*, issues a supplement with the July number containing the excellent report of the American Pediatric Society's investigation on diphtheria antitoxin. The investigation has been undertaken by impartial representatives, to obtain a careful estimate of the value of the serum treatment in America, and the very favorable returns express volumes in the interest of the great discovery of Roux and Behring. The bulk of the returns are given by physicians from private practice, and, on the whole, these data and their averages differ but slightly from the very favorable hospital statistics from all parts of the world. The analysis of 3,628 cases, reported by 615 physicians, represents 15 states, the District of Columbia and Canada.

We quote the summary of the committee's report in another part of this issue.

SELECTIONS FROM CURRENT MEDICAL PUBLICATIONS.

RHINOLOGICAL.

The Nose as a Germ-Filter.

The experiments of St. Clair Thompson and R. T. Heirlett (*Medical Record*, June 6, 1896) emphasize the importance of having a healthy nose. Their researches show that, under very favorable conditions, the lowest number of organisms contained in the inhaled air of an hour was fifteen hundred; and that in a large city, the air that passes through the nose in the same period is charged with from twelve to fifteen thousand. Tyndall has shown that the last portion of an expiration is free from impurities. Other authorities have demonstrated that the interior of normal nasal cavities is perfectly aseptic. The vibrissæ, which line the vestibules of the nose, however, are usually well-laden with micro-organisms. This clearly proves that this portion of the respiratory tract acts as an excellent filter, and that a large number of bacteria meet destruction at this site. Furthermore, pathogenic organisms which have reached the interior of the nose are readily ejected. The following experiment substantiates the last remark: A pure culture of bacillus prodigiosus was placed upon the nasal septum, some distance from the vestibule. Cultures were made every few moments. Continual falling off of the growth in the culture-medium was observed, until at the end of two hours no growth of the bacillus could be detected. LEDERMAN.

An Anatomical Observation.

Dr. Thos. F. Rumbold asserts that the bones of the face stop growing at adult age, but that the cartilages of the nose do not stop growing while the individual lives.

The Prophylaxis of Nasal Catarrh.

The well-known author, Carl Seiler (*N. Y. Med. Journal*, July, 1896), states that the fundamental origin of this affection arises from the so-called rearing of children by over-feeding, over-clothing and over-care-taking. Fresh air, he remarks, is nature's best remedy, and should be administered with a lavish hand. Too much care in the handling of young ones should be avoided. Avoid the unwholesome desire to over-dress the body. Cleanliness, not only of the body, but of the nasal cavities, should be practiced. It is an important part of an individual toilet, and prevents the putrefactive process, and thus avoids the possibility of systemic infection by the ingestion of the products of putrefaction in the susceptible system of a young child.

As early as possible a child should be taught to snuff up the nose a warm saline or alkaline solution, with or without the addition of antiseptics, either from the hollow of the hand or from a small cup or glass, three or four times morning and evening. In this manner the habit is formed, and the routine cleansing becomes a regularity. Atomizers and douches should be avoided at this period of life. The solution employed must be non-irritating and at a suitable temperature, so as not to chill the mucous membrane and cause unpleasant symptoms. Cold applications, in the form of sponging the neck, chest and arms, are recommended. LEDERMAN.

The Etiology and Treatment of Ozæna.

Belfanti and Della Vedova (*La Settimana medica*, April 4th, 1896) gave the results of their researches on this subject, carried out at the Institute of Serum-therapy, in Milan (*Universal Med. Jour.*). They regard the disease as undoubtedly of bacterial origin, and due to a bacillus identical with that of Lœffler in form and characteristics, but differing from it in a great attenuation of virulence, causing only œdemas and moist gangrene at the site of the injections in guinea pigs. The micro-organism is found in the exudate in ozæna, in the depth and on the surface of the diseased mucous membrane, and gives rise to a chemical change in the secretion and to atrophy of the mucous membrane and the bone.

In view of these facts, the authors decided to employ the antidiphtheritic serum in the treatment of the disease, and they give the details of 32 cases, 16 of which were cured, 7 almost cured, 5 improved, and 4 showing slow improvement. The uncured cases are still under treatment, and the authors look for successful results in these also. The method of treatment consisted in making injections of 10 cubic centimeters (2½ fluid drachms) of antitoxin every two days, or every day, if possible, until about thirty injections had been given, the number varying according to the age, duration of the disease, and local and general reaction of the remedy. The changes produced were: (1) a turgescence and congestion of the diseased mucous membrane; (2) disappearance of the characteristic odor; (3) appearance of fluid exudate; and (4) disappearance of green crusts. These alterations varied as to the time of their manifestation and their intensity. The complications produced during the treatment were neither severe nor dangerous, though the authors recommend suspending the injections until they disappear.

Bozzolo reported two cases treated by him with the antitoxin; the first a girl, 13 years of age, with chronic ozæna of an exceedingly fetid character. The odor entirely disappeared after the fourth injection, but on suspension of the treatment it returned after some time. Three injections were then made and the odor again disappeared. Multiple subcutaneous hæmorrhages made it necessary to abandon the treatment. Soon after the girl developed measles. At the time of report the condition of the nasal cavities was excellent. The second case was that of a woman of 43 years, in whom the bad smell disappeared after the fifth injection of the serum. She was still under treatment at the time of report.

Gradenigo stated that he had treated sixteen cases of ozæna with the serum. In five of these the bacteriological diagnosis had been made by Belfanti. In all there had been an improvement, though the number of injections had not as yet been sufficient to cause complete cure. One case of purulent ozæna had been particularly benefitted. He had noted a specific, elective action of the serum upon the diseased mucous membrane.

Oleo-Stearate of Zinc.

This preparation is recommended by Walter F. Chappel (*N. Y. Med. Journal*, May 30, 1896) as a pleasant and serviceable application in the treatment of diseases peculiar to the upper air passages. It is a combination of stearate of zinc with benzoinated liquid albolene. It does not precipitate at a temperature of 212° F., and remains fluid at 140° F. It is neutral, almost tasteless, and non-irritating. May be used alone, or as a base for other medicaments.

LEDERMAN.

Sarcoma of the Nasal Cavity Benefited by Ligation of both External Carotids

Is reported by Dr. M. D. Lederman (*Medical Review*). Malignant diseases of the nasal passage are rare, and no remedy is so important as prompt surgical interference. Sarcoma usually develops before the age of 40 years, and, when fatal, destroys life in three or four years The round cell type is most malignant. Osteo-sarcomata grow with astonishing rapidity, as in a case examined by the author, in which it rapidly eroded the adjoining parts; and when last seen occupied the entire right side of the face. The case reported was a man of 26, suffering from repeated serious epitaxes, frontal headache, and obstructed nasal breathing on the right side. He was cachectic and emaciated. The growth filled the entire right side of the nasal cavity and choanæ, and was attached to the pharyngeal vault and the upper part of the pharynx and pterygoid plate of the sphenoid. On account of the extent to which the disease had progressed, trial was made of the toxin of erysipelas and bacillus prodigiosus. The reaction from this treatment was so severe that the patient, after the seventh injection, refused to allow any more to be made. Ligature of both external carotids was then done, the patient making a good recovery and afterwards going to the mountains. The improvement was remarkable, the patient gaining 20 pounds in weight. Two months afterwards, examination showed that the nasal part of the tumor had diminished to one-third of its former size, and probing no longer caused such hemorrhage. The removal of the remainder of the growth by means of a snare will be practiced in the near future.

SCHEPPEGRELL.

Myxo-Sarcoma.

Dr. Gilbert Barling, of Birmingham, England, reports in the *Am. Jour. of Surg. and Gynæcology*, the removal of a myxo-sarcoma growing from the basic sphenoid by splitting the palate. The growth reached to the level of the palate. The hard palate was split for nearly an inch, the muco-periosteum reflected, and the posterior part of the hard palate, with a portion of the septum attached, was chiseled away. After the removal of the growth the divided palate was sutured, and an uneventful recovery followed, with complete union of the palate. The author says: "Turning now to the case above related, one thing was made clear. It was that the method by splitting of the palate is only suitable for cases of very limited growth. The amount of room gained is quite inadequate for the removal of the more formidable variety of these tumors. From the point of view of recovery, without any drawback or deformity, this operation leaves nothing to be desired."

The Results of Injections of Erysipelas Toxins upon Malignant Growths.

The following conclusions were offered in a report before the New York Surgical Society by Drs. Stimson, Gerster and Curtis (*Annals of Surgery*, July, 1896):

1. That the danger to the patient from this treatment is great.

2. Moreover, that the alleged successes are so few and doubtful in character that the most that can be fairly alleged for the treatment by toxins is that it may offer a very slight chance of amelioration.

3. That valuable time has often been lost in operable cases by postponing operation for the sake of giving the method of treatment a trial.

4. Finally, and most important, that if the method is to be resorted to at all, it should be confined to the absolutely inoperable cases.

LEDERMAN.

Total Rhinoplasy and the Operation for "Saddle-Nose."

Dr. Schimmelbusch (Berlin) states that only partial cosmetic and functional results are secured in the operation of total rhinoplasty, for the reason that for want of support the new nose gradually sinks, and then shrinks more and more (*Verhandlungen der deutschen Gesellschaft für Chirurgie.*, xxiv. Kongress, 1895; *Annals of Surgery*, July, 1896). By the introduction of bone in the flap replacing the nose, attempts have been made to give more stability to the same. So we find that Ollier made a bone-mucous-membrane flap from the root of the nose; Langenbeck a bony bridge from the border of the aperture pyriformis; and König took a bit of bone from the forehead to make a support for the soft parts. Schimmelbusch has gone so far as to form a new nose entirely out of bone. He has endeavored to construct the new nose as much as possible after the plan of the natural organ, so that it should have firm walls and an exact covering on its outer and inner surface. The plan of his operation, which he uses with modifications in the reconstruction of the saddle-nose, is essentially as follows:

For a so-called total rhinoplasty, a three-cornered skin and bone flap is taken from the middle of the forehead. This flap is so cut out with the knife that the smaller base is at the root of the nose and the broader side lies exactly in the middle of the forehead. With a sharp, broad chisel the anterior surface of the frontal bone represented by the flap is chiseled off. This is the most difficult part of the operation.

A large defect remains in the forehead, which, on account of the very slight elasticity of the scalp cannot be closed to any considerable degree by the use of sutures. It can be completely closed by a flap operation in such a manner that the incisions for the same are made in the hairy scalp.

From the angles of the forehead defect, large, arched incisions are carried over the skull towards the ears, the flaps loosened and sutured over the forehead. In this manner simple linear scars remain in the forehead.

The loosened flap must first be allowed to granulate, and then it is transplanted upon the wound surface. The bone plate is sawed along its middle line and folded together in the form of the nose. This formed flap is then sutured into the freshened wound in such a way that the raw surface is posteriorly and the skin surface anteriorly. The septum of the nose is simply obtained from the skin in the deformed nose, so that strips of skin are taken from the sides of the defect as far as the natural position of the septum. The tip of the nose is also formed from the original nose.

In the first week a silver wire with buttons on either end is passed through the nose at the level of the wings, and left in place until the separation of the forehead flap and the end of the operation. This helps form the configuration of the nasal wings by its lateral pressure.

The operation for "saddle-nose" is the same in the first act except that the skin-bone flap is not transplanted. The bone is sawed through along its middle, and the two halves so placed that the wound surfaces look outward. The saddle-nose is then split along its centre, the two halves separated and turned aside, and frontal flap with its skin surface towards the nasal cavity sutured in place. The lateral halves of the nose are then replaced upon the new support. At first they only partially cover the nose, but after two or three weeks, when the base of the forehead flap is cut through, gradually the wound comes together till only a linear scar remains.

Schimmelbusch did the first total rhinoplastic and "saddle-nose" operations in the royal clinic four years ago. Since then Von Bergmann has operated upon all of the other cases. The operation has thus far been done twelve times. All of the noses have preserved their form well; indeed, they have improved with time. The profile, height, and the lumen, have remained, and shrinking has not occurred.

As no dangers or complications have arisen, Schimmelbusch warmly recommends his procedure. SCHEPPEGRELL.

Rhinoplasty by the Italian Method.

P. Berger (*Bull. de l'acad. de méd. de Paris*, Vol. xxxv., p. 204) strongly advocates the Italian method of rhinoplastic operations, so successfully used at one time by Tagliakozza and Graefe. With the aid of the author's simple fixation apparatus, the severe strain caused by the binding of the arm to the head is considerably relieved. In the two cases reported by Berger the patients submitted to the fixation for a period of ten days with but slight inconvenience. The results in both cases were excellent.

Osteoplastic Opening of the Frontal Sinus.

Professor Czerney, Heidelberg, states that in an empyema of the frontal sinuses the first thing to do is to pass a sound into the sinus through the natural opening in the nose and keep the opening patent (*Verhandlungen der deutschen Gessellschaft fur Chirurgie*, xxiv. Kongress, 1895; *Annals of Surgery*, July, 1896). When this cannot be done, or when the disease cannot be cured by this method, an opening should be made in the place where the bulging is most prominent, in the depressed roof of the orbit or in the front of the frontal bone. If a large opening is made here by chiseling away the roof of the sinus, a depressed scar remains.

A young man who had been treated by the ordinary method of opening through the nose without his case having been brought to a favorable termination, was brought to the surgical clinic for relief. The frontal sinus was laid open by turning up a semicircular flap of bone and scalp, and the cavity freed of pus and granulations. The opening into the nose was enlarged and a drainage-tube inserted. The flap was kept open for a time with iodoform gauze, and healed firmly in four weeks without any deformity whatever. Six months later the healing was still solid. SCHEPPEGRELL.

LARYNGOLOGICAL.

The Laryngologist and the General Practitioner.

In the course of Dr. W. H. Daly's short but practical address (*N. Y. Med. Jour.*), as president of the American Laryngological Association, at its eighteenth annual meeting, occurs the following, which would seem to indicate that he considered the study of rhinology of more importance than laryngology: "The debt that general medical and surgical science and art owe to laryngology and rhinology, then, is so apparent and real that we must be pardoned for our expression of honest pride for the part this learned and pioneer society has taken to place and maintain it on the high plane it now occupies. Let us then go forward in the right direction, and especially endeavor to further reveal the obscurities that still surround *ethmoidal* and *sphenoidal diseases.*"

Cough.

Dr. Pearse (*Kas. City Med. Index*) classifies coughs as follows:

"It seems to me advisable to divide coughs into two general classes clinically. I have never seen such a classification in any text-book, yet I have found it helpful in practice, and so have submitted it here. My classification is:

1. Coughs that may safely be lessened, quieted or stopped by drugs.
2. Coughs that should be encouraged.

I.—MAY SAFELY BE RELIEVED BY DRUGS.

Acute.	1.	Dentition cough.	Reflexes.
	2.	Ear diseases and irritations.	
	3.	Gastric and enteric irritations.	
	4.	Malaria.	
	5.	Nasal irritations.	
	6.	Whooping-cough.	Neuroses.
	7.	Croup, spasmodic.	
	8.	Croup, membranous.	Inflammations.
	9.	Pharyngitis.	
	10.	Pneumonia, *when dry*.	
	11.	Pleurisy.	
	12.	Trachitis and bronchitis.	
	13.	Weak heart.	Irritations.
	14.	Paroxysmal stage of asthma.	
Chronic.	15.	Organic heart lesions.	varicose
	16.	Enlarged tonsil and post nasal growths.	adenoid
	17.	Evening and night coughs of phthisis.	
	18.	Evening and night coughs of chronic bronchitis.	
	19.	Gastric or enteric irritations.	
	20.	Lingual tonsil.	

II.—SHOULD BE ENCOURAGED.

Acute.	21.	Broncho-pneumonia, or capillary bronchitis.
	22.	Lobar pneumonia if expectoration be in process.
Chronic.	23.	Morning cough of phthisis.
	24.	Dilated bronchi.
	25.	Chronic bronchitis (morning).
	26.	Perforated abscess.
	27.	Intra paroxysmal asthma.

"Each may be divided into acute and chronic conditions for the purpose of assisting in the direction of treatment; chronic cases requiring positively for their successful treatment a correct appreciation of the causes underlying the cough, while an acute case will frequently require nothing more than a mild sedative and a day in bed to complete its cure.

"The treatment in each of these last classifications will be medical or surgical; and while it may surprise some of my hearers to think of a surgical treatment for cough, yet some of the most brilliant results are to be so obtained."

Simple Acute Laryngitis and Bronchitis.

According to clinical observation (*N. Y. Med. Journal*, July 18, 1896), an acute inflammation of the respiratory tract is of free progression. Resolution may have taken place in the larynx and trachea, and yet the lower tissues may be in an acute stage. The important factors tending towards recovery are a free flow of mucus and serum from the mucous membrane, and the getting rid of the foreign element as soon as possible. Retained secretions irritate and ferment, thus reinfecting the parts. Remedies that will stimulate secretion are indicated. The bronchial mucus is the best sedative to an inflamed larynx, and a flow of this non-irritating secretion should be encouraged. For five years the writer has found apomorphine, in a freshly compounded acidulated mixture, to be the best of all relaxing expectorants. He gives it in one-thirtieth grain doses, at two or three hours intervals, and it rarely fails to do its work. Rest is also applied in these cases. Sulphate of codein, in one-fifth grain doses, f. r. n., is also given. Carbonate of ammonium he found to be the most serviceable stimulating expectorant. LEDERMAN.

Use of Expectorants.

Dr. Thomas Hubbard, in the course of his article on the Principles of Treatment of Simple Acute Laryngitis and Bronchitis (*N. Y. Med. Jour.*, July 18, 1896), aptly refes to an old English medical aphorism, which the general practitioner and occasionally the specialist too often forgets, *i. e.*: "Never give stimulating expectorants until the skin is moist and the phlegm loose; it will do no good. You must give ipecac and relaxant expectorants as long as the skin is dry and the phlegm tough."

Asthma.

In a letter to the editors, Dr. M. B. Ketchum says: "Relative to the note on 'Asthma,' pape 65 of the July issue of THE LARYNGOSCOPE, would say that the patient referred to is still well, and it is now over two years since she reported herself as 'cured.'"

Intermittent Dysphonia Spastica.

Dr. Frederick I. Knight (*N. Y. Med. Journal*) says that in the way of treatment of the trouble, more attention has been paid to vocal exercise, and the importance of not speaking on inspiration insisted on.

Some Observations in Laryngeal Tuberculosis.

Among some of the more obscure points in the symptomatology of this affection, Vander Poel (*N. Y. Med. Journal*, July 18, 1896) mentions the simple weakness of the voice, without organic change in the larynx. This, he thinks, is due to the weakened tensors of the vocal cords. The latter appear shortened and shriveled. The appearance of the parts resembles the picture of hysterical aphonia; except that, in the latter ailment, the adductors are usually affected and not the tensor muscles. The paralysis of the right vocal cord, which is at times seen in tubercular disease of the larynx and lungs, is supposed to be due to the right recurrent nerve being imbedded in the hard, thickened pleural tissue about the apex of the right lung. Œdema naturally interferes with the usual movements of the crico-arytenoid articulation, and so may give rise to the symptom in question.

As a preliminary symptom to the development of a tubercular manifestation, the author has noticed "a slight thickening of the mucous membrane, associated with the presence of a white, milky, somewhat purulent, mucous fluid, which secretion contains no tubercle bacilli, but which he considers almost pathognomonic. It is chiefly found in the region of the aryteno-epiglottic folds, or may coat the interior of the larynx." He has seen this catarrhal state six weeks to two months before the usual symptoms developed. A case in point is mentioned.

LEDERMAN.

The Importance of Diet and Muscular Exercise in the Treatment of Tuberculosis.

Dr. McGillicuddy, in an article in the *Medical Record*, refers to the importance of diet and muscular exercise in the treatment of tuberculosis. In a large number of cases the bacillus of tuberculosis may be found before there are any well-marked physical signs. The bacteria often seem to be destroyed by phagocytosis. There is an antibacteriological property in the tissues, fluids and secretions of the body, and these form a natural defense against the growth of microorganisms; hence the importance of keeping up the strength and vitality of the patient. The blood serum is bactericidal, and this protecting property is enhanced by scientific dieting. At frequent intervals a considerable quantity of carefully roasted or broiled beef or mutton, or raw eggs, or stale bread, and vegetables should be taken; if there is a disgust of food, the stomach should be treated, good results sometimes being obtained by dilute hydrochloric acid and drinking hot water. Physical exercise is important, but should be taken under a scientific instructor, so that the interest does not flag, and there may be an harmonious development of those parts of the body which need it most—thus round shoulders and a narrow chest may be improved. This treatment does not exclude the inhalation of creosote, terabin, etc., which are of great importance in the treatment of the disease.

SCHEPPEGRELL.

Tubercular Infection by Way of the Tonsils.

Dr. Dieulafoy (*Bull. de l'Acad. de Méd.*) has made inoculations from hypertrophied faucial and pharyngeal tonsils in guinea-pigs, and developed tuberculosis in 14 and 20 per cent. respectively. In the early stage of tubercular infection there is hypertrophy, but the phagocytes may obtain the upper hand, followed by shrinkage of the tonsils, without any further extension of the tubercular process. Frequently, however, the infective microbes reach the lymphatics of the tonsils and pass to the sub-maxillary and cervical region. They may be destroyed here, but they may also extend from group to group, especially if the case is complicated by an attack of scarlet fever, measles, whooping-cough, influenza or syphilis. The bacilli may be carried by continuity through the lymphatics until either the thoracic duct or the right lymphatic duct is reached, whence they may be carried to the right side of the heart and finally to the lungs. The interval between the first and this last stage may be a few months or several years. The fact that the pharyngeal tonsil is more often affected, shows that the bacillus may travel through the nasal passage.

Cornil, in discussing the paper, claims that in his histological examinations, he was able to find signs of a tubercular process in only four of seventy cases, and never in cases of hypertrophied faucial tonsils. He suggested that in inoculation experiments, the bacilli may enter by the mouth or nose, and becoming entangled in the anfractuosities of the adenoids, or the crypts of the faucial tonsils, may give fallacious results.

SCHEPPEGRELL.

Guiacol as a Local Anesthetic in Diseases of the Ear, Nose and Throat.

George Laurens (*Annales des Malad. de L' Oreille, etc.*, Vol. xxii., No. 1) demonstrates in a series of cases that guiacol has a marked local anesthetic effect when applied to the ear or pharynx. Laurens uses a solution of guiacol in pure olive oil (1 in 10).

To apply to the ear, 5—6 drops of the warmed medicated oil are instilled in the canal and left for ten to twenty minutes. The surplus is removed with absorbent cotton. In three cases of paracentesis auris the drum membrane was relatively well anesthetized and the operation apparently painless. (?)

To produce anesthesia in the nasal tract for cauterization, removal of polypi, etc., requires much longer time than by use of cocain. The lower turbinates are painted briskly for one minute, and a saturated pledget of cotton placed in contact with the mucous membrane.

The tissue-retraction produced by cocainization, making a thorough inspection of the nasal cavities possible, is not an accompaniment of the guiacol application.

No indications of disagreeable effects, however, have been noticed. This new use of guiacol gives promise of being of some service in operations on the ear, nose and throat.

Report of the American Pediatric Society's Collective Investigation into the Use of Antitoxin in the Treatment of Diphtheria in Private Practice. (Summary.)

With a view of obtaining an expression of opinion from American physicians as to the value of the serum treatment in diphtheria, the American Pediatric Society sent out circular letters to a large number of physicians, requesting information upon the following points: age, previous condition, duration of disease when first injection was made, the number of injections, the extent of the membrane—tonsils, nose, pharynx and larynx; whether or not the diagnosis was confirmed by culture; complications or sequelæ, viz.: pneumonia, nephritis, sepsis, paralysis; the result, as regards, other treatment employed, the preparation of antitoxin used, and general impression drawn from the case.

The report of the committee from the study of 3,628 cases reported is elaborate and instructive, and includes several important statistical tables. The following is the summary of the report:

1. The report includes returns from 615 physicians. Of this number more than 600 have pronounced themselves strongly in favor of the serum treatment, the great majority being enthusiastic in its advocacy.

2. The cases included have been drawn from localities widely separated from each other, so that any peculiarity of local conditions to which might be ascribed the favorable reports must be excluded.

3. The report includes the record of every case returned, except those in which the evidence of diphtheria was clearly questionable.

It will be noted that doubtful cases which recovered have been excluded, while doubtful cases which were fatal have been included.

4. No new cases of sudden death immediately after injection have been returned.

5. The number of cases injected reasonably early, in which the serum appeared not to influence the progress of the disease, was but nineteen, these being made up of nine cases of somewhat doubtful diagnosis; four cases of diphtheria complicating measles; and three malignant cases in which the progress was so rapid that the cases had passed beyond any reasonable prospect of recovery before the serum was used. In two of these the serum was of uncertain strength and of doubtful value.

6. The number of cases in which the patients appeared to have been made worse by serum was three, and among these there is only one new case in which the result may fairly be attributed to the injection.

7. The general mortality in the 5,794 cases reported was 12.3 per cent.; excluding the cases moribund at the time of injection, or dying within twenty-four hours, it was 8.8 per cent.

8. The most striking improvement was seen in the cases injected during the first three days. Of 4,120 such cases, the mortality was 7.3 per cent.; excluding cases moribund at the time of the injection or dying within twenty-four hours, it was 4.8 per cent.

9. The mortality of 1,448 cases injected on and after the fourth day was 27 per cent.

10. The most convincing argument, and to the minds of the committee an absolutely unanswerable one in favor of serum therapy is found in the results obtained in the 1,256 laryngeal cases (membranous croup). In one-half of these recovery took place without operation, in a large proportion of which the symptoms of stenosis were severe. Of the 533 cases in which intubation was performed the mortality was 25.9 per cent., or less than half as great as has ever been reported by any other method of treatment.

11. The proportion of cases of broncho-pneumonia—5.9 per cent.—is very small, and in striking contrast to results published from hospital sources.

12. As against the two or three instances in which the serum is believed to have acted unfavorably upon the heart, might be cited a large number in which there was a distinct improvement in the heart's action after the serum was injected.

13. There is very little, if any, evidence to show that nephritis was caused in any case by the injection of serum. The number of cases

of genuine nephritis is remarkably small, the deaths from that source numbering but fifteen.

14. The effect of the serum on the nervous system is less marked than upon any other part of the body; paralytic sequelæ being recorded in 9.7 per cent. of the cases, the reports going to show that the protection afforded by the serum is not great unless injections are made very early.

THE ACTION OF THE SOCIETY UPON THE REPORT.

At the close of its presentation, the society voted to accept the report of the committee, and after a full discussion it was decided to embody its conclusions in the following resolutions:

1. *Dosage.*—For a child over two years old, the dosage of antitoxin should be in all laryngeal cases with stenosis, and in all other severe cases, 1,500 to 2,000 units for the first injection, to be repeated in from eighteen to twenty-four hours if there is no improvement; a third dose after a similar interval if necessary. For severe cases in children under two years, and for mild cases over that age, the initial dose should be 1,000 units, to be repeated as above if necessary; a second dose is not usually required. The dosage should always be estimated in antitoxin units and not of the amount of serum.

2. *Quality of Antitoxin.*—The most concentrated strength of an absolutely reliable preparation.

3. *Time of Administration.*—Antitoxin should be administered as early as possible on a clinical diagnosis, not waiting for a bacteriological culture. However late the first observation is made, an injection should be given unless the progress of the case is favorable and satisfactory.

The committee was appointed to continue its work for another year, and was requested to issue another circulur asking for the further co-operation of the profession, this circular to be sent out as soon as possible in order that physicians may record their cases as they occur through the coming year.

The Fallacy of Antitoxin Treatment as a Cure for Diphtheria.

Dr. Elmer Lee (*The Journal of the American Medical Association*, July 4, 1896), in considering diphtheria from a clinical standpoint, states that there are two varieties: one is true clinical dipththeria, the gross symptoms of which are entirely sufficient for practical diagnosis; the other is the diphtheria of the bacteriologic laboratory. These two varieties are made necessary by the claims of bacteriology, by which discovery practical medicine has been both aided and retarded. Aided, by helping to a clearer understanding of the pathogenic and bacteriologic changes during the process of disease; and hindered, for the time being, by throwing a cloud across the pathway of natural and practical therapeutics.

Diphtheria is a systemic disease with both local and general manifestations. The local manifestations are located principally in the throat and larynx. By some observers the local symptomatology is considered paramount. It is taught by bacteriologists that local microbes develop toxins upon the mucous membrane of the throat, and from this source the entire system is infected; whereas the true explanation regards the pathologic changes in the throat as but local exhibitions of the general systemic poison. The laboratory declaration that a Klebs-Löffler baccillus found in the secretion of the throat establishes *prima facie* evidence that a disease is diphtheria, need not confuse our judgment and interfere with the conclusion previously stated in the foregoing sentence. It is undoubtedly true that suitable nourishment for the growth of germs is found in the throats of children whose general system is impaired with diphtheritic sepsis. The so-called specific germ is found upon the tonsil both in health as well as in disease. Is it, therefore, a reliable means of determining the diagnosis of diphtheria?

Is the explanation of the false membrane which forms upon the throat, thus interfering with respiration, to be found in bacteriologic inquiry? When the system is impaired, and a determination of the weakened vital forces results in an inflammation of the fauces, there is thrown out upon the mucous membrane a thick, tenacious, glairy fluid, which dries and thickens into a membrane. The inflammatory state of the mucous membrane keeps adding fresh serous discharges, thus augmenting the deposit and ultimately filling the free space of the throat. In this serum the colonies of a variety of germs find normal food for nourishment and growth. Owing to the occlusion of the breathing space, insufficient air enters the lungs, and further embarrassment of the health of the child quickly ensues. Examinations of the blood show an altered relationship among the component parts. Capillary circulation is diminished, and congestions arise, both in the structures of the throat and neck and in other tissues which are adjacent. The physical economy of the vital organs is imperilled, and their functions are imperfectly performed. Retention of morbid matter rapidly accumulates throughout the entire system, especially in the capillary and lymphatic vessels. Great efforts are made by the resisting vitality to unload its burden and repair the damage.

At this time of the pathologic processes there are two therapeutic measures which are imperatively demanded: first, the supply of new force to the tissues by fresh nutrition; and secondly, aid to the impaired efforts of the organism to remove the morbid and retained matters. Nature is doing all that it can to carry the effete material produced by the disease out of the system through the excretory organs. At this moment what is accomplished by forcing into the circulation a substance which has no natural relationship to the structure of a single element composing the entire body? The system is laboring and panting for life under the oppression of toxins which it is trying to eliminate. At the very crisis of the greatest strain upon vital resources a serum which does not belong to the human economy is strangely added to the fearful load, which is in some cases the last straw that breaks the camel's back. Its use is therefore unphysiologic and absolutely contra-indicated. The bacteriologist affirms to the contrary; observe which is the better able to judge—practical clinicians, or the ultra-scientist in the laboratory?

The claims that are seductively held out, that cases treated early by antitoxin would recover, have utterly failed. The claim subsequently, that cases treated by antitoxin recover more quickly than those not so treated, has utterly failed to be true. The claim that the death rate would be lessened has proved to be a disappointment. The claim that antitoxin was harmless has been proven to the contrary by many fatal terminations. Judging from the facts concerning the use of antitoxin in practice, does there stand on record to day one single valid reason, from a clinical standpoint, to encourage the hope of better results in the future than have been attained in the past by other methods of treatment? It is not the purpose to impute insincerity or lack of intelligent industry on the part of the profession concerned in experimenting with antitoxin, but the promises of better results through its use have unfortunately failed to be substantiated.

The human system, when laboring under morbid influences, needs rather those elements which can add strength and vigor to the vital resistance. By what law or principle in physiology can augmented vital resistance be maintained by the introduction of antitoxin into the system? Has the explanation of the action of antitoxin been satisfactorily given by those who are its sponsors? It is to be conceded that there are cases of diphtheria which when treated by antitoxin have seemingly progressed favorably; while there are other cases which have quickly terminated favorably. The influence of the antitoxin virus is directly dependent upon the condition of the patient at the time of its introduction. If the powers are well maintained, as during the first few days of the disease, naturally the system is stronger and efforts more effective towards elimination, both of the antitoxin introduced and of the autogenerated toxin. Here is the explanation of the advantage claimed by the early use of antitoxin. It follows, when the system is further impaired, its phagocytic action is also impaired, and the chances for recovery, by reason of the further introduction of extraneous matter, are lessened. What physiologic problem could be more simple? The point is this: that the blood does not need to be further polluted in order to expel the autogenerated products which it already contains. Can anyone explain the reaction which takes place in the human living organism when antitoxin is added? There is a reaction, but that the reaction is a curative influence is open to discussion.

The records of the cases treated in the Willard Parker Hospital, of New York City, prove that antitoxin is dangerous and even fatal. The statistics of that hospital establish that the further use of antitoxin is unjustifiable. Extreme interest and effort to know the truth has guided the staff of the Willard Parker Hospital. Dr. Joseph E. Winters, of New York, has sought diligently to establish the value of antitoxin, but the clinical experiences have forced him unwillingly to condemn its use. Is it safe to neglect the warning of such an experienced clinician and medical teacher? Professor Lennox Browne, of London, patiently and earnestly sought for clinical reasons to further the interests of antitoxin. His conclusions are emphatic and pronounced against it. Dr. Weeks, of Philadelphia, also deprecates the use of antitoxin, basing the conclusions upon an extensive experience in the Municipal Hospital of that city. Health department statistics of New York are cited in Chicago to the advantage of antitoxin, and Chicago statistics are published in the interest of antitoxin in New York. Health department methods of collecting information must be taken with allowance for accuracy. Previous to leaving Chicago a culture was made of the tongue of the office boy, and the tube left at the city health office. The answer received stated that the case was one of true diphtheria. In fact, the boy was not ill at all. Provisions were immediately made by the department to fumigate and otherwise annoy the family at the boy's home. Is it not easy to be seen that the enthusiasm and overzealous interest of the medical corps in the employ of cities may bring to the notice of the health departments cases similar to the one cited? Such reports go on the records, and contribute toward the statistics which are sent broadcast. The statistics very quickly become confused, and their power for usefulness is absolutely *nil.* Unquestionably large numbers of cases which have been reported to be diphtheria and cured by an injection of antitoxin have been of the bacteriologic class.

It was recently stated to me, upon good authority, that the sales were falling off rapidly, and an early termination of the demand for antitoxin was not far off; also that offers to purchase antitoxin upon most advantageous figures have been declined, because of the fear of pecuniary loss. Thus the straws point the way the wind blows.

SCHEPPEGRELL.

Diphtheria Antitoxin in Japan.

There were 353 cases of diphtheria treated by serum injections in Tokio during the year ending November 25, 1895 (*Med. Rec.*). Of this number 31, or 8.78 per cent., died. In the statistics collected by Kitasato of 26,521 cases of diphtheria in Japan, treated before the introduction of serotherapy, the number of deaths was 14,996, a mortality of 56.54 per cent.

Nasal Feeding in Diphtheria.

Dr. C. B. Stevens says: "The advantages of nasal feeding are: that nothing gets into the trachea, that the naso-pharynx is not irritated by food and drugs, and that sufficient and known amounts of food and drugs can be given at regular intervals. The children who need food and stimulants most refuse them."

X Rays.

Dr. Wm. H. Price, in the *Med. and Surg. Reporter*, reports a case wherein a jack-stone had been swallowed by a child 2½ years old. The foreign body was located, by means of a skiograph, in the œsophagus nearly opposite the second rib. Operation for its removal was successful.

Penetration of a Portion of a Tracheotomy-Canula into the Lung.

A. Blumenthal (*Medycyna*, 1896, No. 3) describes this rare case (*Centralblatt für Chirurgie*): Two years prior to the occurrence of the present troubles, tracheotomy was performed on a healthy young driver, who had received some injury about the neck. A metal tracheotomy tube had been introduced, and the outer tube had remained unchanged and uncleaned in the trachea. During a severe paroxysm of coughing, patient experienced the sensation of something falling into the depths of the trachea. This was followed by intense dyspnea. On removal of the canula, the outer tube was found broken, and a portion missing. Patient claimed to be able to feel the movement of the foreign body with every inspiration and expiration. A careful examination was made three days later; only a considerable dyspnea and diminished respiratory sounds in left lung were found. Probing of the trachea negative. The cyanosis and severe dyspnea gradually disappeared. Patient complained of pain in left eighth intercostal space; there was also profuse bloody, purulent expectoration. About two months later, the patient appeared apparently cured. Expectoration of pus and blood had ceased; cough very slight; patient again resumed his work as driver. Physical examination revealed nothing abnormal. This case demonstrates that foreign bodies may penetrate from the trachea to the parenchyma of the lung without causing serious disturbance in the tissues, and that healing and encapsulation may take place.

Primary Epithelioma of the Epiglottis.

A very rare case of primary epithelioma of the epiglottis is reported by Angelsco (*Bull. de la soc. anat. de Paris*, Vol. ix., p. 764). The laryngoscopic examination demonstrates clearly the seat of the lesion and the point of development and character of the growth. The entire epiglottis was involved. After a previously-made tracheotomy, the removal of the growth was accomplished. Patient died several days later of broncho-pneumonia.

The Operation of Thyrotomy.

Dr. Philip de Santi (*The Journal of Laryngology*, No. 6, 1896), in a paper before the British Medical Association, gives the following description of the operation of thyrotomy: The patient should be anesthetized, with chloroform preferably, as ether excites the secretion of much mucus and saliva, which obscure the parts to be removed; an incision is made mesially from the upper border of the thyroid cartilage to about one-and-a-half inches below the cricoid. The trachea is exposed and opened, and a Hahn's compressed sponge canula inserted. After the lapse of ten to fifteen minutes the compressed sponge will have expanded sufficiently to prevent entry of blood into the larynx, and the parts over the thyroid are divided, and the cartilage exposed and divided mesially with bone forceps or small saw. The alæ are then held aside, and the interior of the larynx is painted with a five per cent. solution of cocaine to diminish the sensibility of the parts. Two elliptical incisions are now made around the diseased tissue, going wide of them, and down to the perichondrium; the growth is seized with forceps and removed, together with the mucous membrane, with curved, sharp-pointed scissors. The base is sharp-spooned, the interior of the wound dusted with iodoform, and the Hahn's canula removed at once. This is important, as septic infection has followed the retention of the sponge canula for twenty-four to forty-eight hours. The whole external wound is left open, being covered with a layer of iodoform gauze.

For innocent growths avoid sharp-spooning, and suture the thyroid alæ accurately together with fine silver wire.

After-treatment.—Keep the patient on the side corresponding to the half of the larynx operated on, and the head low; feed the patient for the first day or two on nutrient enemata; on the day subsequent to the operation try to give fluids by the mouth, the patient being made to sit up and lean well forwards. Give water as a trial; if it gets into the larynx it at once runs out through the wound; should it be successfully swallowed, beef tea, milk, etc., are given.

The wound must be carefully dusted with iodoform daily. During the act of swallowing the two lips of the wound into the larynx separate sufficiently to allow of the introduction of the nozzle of an insufflator between them. As a rule there is but little constitutional disturbance, and the wound rapidly heals by granulations.

SCHEPPEGRELL.

One Thousand Goitre Excisions.

Professor T. Kocher (Berne) states that twelve years ago he reported to the German Surgical Congress his first one hundred cases of thyroid operation for goitre (*Verhandlung der deutschen Gesellschaft für Chirurgie*, xxiv. Kongress, 1895—*Annals of Surgery*, July, 1896). He described at that time very graphically the symptoms associated with cachexia strumipriva.

At the last German Congress he reported 1,000 operations for goitre. This report is of the greatest interest and importance, for the reason that all of the operations were done in one hospital. Among the last 900 cases cachexia strumipriva occurred in but one. In that case after removal of one-half of the struma the other half became atrophic. Acute symptoms in the form of tetany were observed, especially in cases in which the thyroid was operated on for malignant tumors. and in which but a very small part of the gland could be left. But in all cases these acute symptoms have invariably subsided without ill effect. All of the other cases of cachexia strumipriva were also cured by thyroid diet. Another complication, injury to the voice, which occurred in 7 per cent. of cases, he believes can be avoided by proper care. In the cases in which he operated for benign tumors the vocal disturbance was always recovered from. The mortality statistics in these cases is of especial interest. After deducting the cases operated upon for malignant disease, the mortality in 870 cases (many of which were very complicated) was eleven, a death rate of a little more than 1 per cent. Among these cases were some which were from the beginning almost hopeless cases, and which were brought to the hospital in a moribund condition. Five cases died as an immediate result of the operation; three died of morbus Basedowii. In such cases he afterwards avoided excision, and contented himself with the ligating of three arteries. In one case, after ligating all four arteries, tetany developed. Of the simple, non-complicated cases only three died.

There was not a single chloroform death among the last 900 cases; one occurred among the first 100. One case of ether-bronchitis is reported. Kocher is of the opinion that when there is marked dyspnea the operation had best be done under cocaine anesthesia, as these patients bear cocaine very well.

Two deaths were due to infection; these occurred in cases operated upon for recurrent disease. There is a series of 150 uncomplicated cases of healing. There was also a series of 272 operations for goitre without a death. This series includes some very severe cases with highly developed thyreoptosis.

Although these results are objects of great pride to the surgeon, the patients would have been much better satisfied, and would have regarded it as a triumph of science, had they been cured by dietary and medicinal measures. The experiments of his assistants, Lanz and Trachevsky, show that by a long course of thyroid feeding the goitre can be reduced in size and made to atrophy to such a degree that there is danger of destroying the function of the thyroid gland. When these experiments were carried out in the case of animals very important results were obtained. Mikulicz advanced the theory that when too much thyroid secretion is introduced into the system the symptoms of Basedow's disease develop. This theory does not apply to all animals the same. Mice, rabbits and dogs vary greatly in their susceptibility to the thyroid secretion of sheep and swine. Kocher and Trachevsky removed the thyroid gland from pregnant animals to see whether fetal cretinism could be artificially produced. As a result of the operation rachitic young were born. Pregnant animals are very susceptible to the removal of the thyroid. Trachevsky has discovered that an atrophy of the thyroid can be caused by the internal administration of phosphates. Kocher discovered that a great improvement of the symptoms of Basedow's disease could be brought about by the administration of sodium phosphate. Von Trachevsky concluded from these observations that the thyroid gland bore some relation to the presence of phosphates in the animal economy. It must be concluded that the development of goitre can be greatly influenced by dietetic and medicinal measures, and especially by the use of thyroid secretion.

At the Surgical Congress, Kocher presented two photographs of a man who before the beginning of the dietetic treatment had an immense goitre, and which at the end of eighteen months had been made to entirely disappear.

He is of the opinion that the abnormal secretion of thyroid juice has an etiological relation to Basedow's disease, and that the exciting cause for the disease must be sought for in the nervous system.

SCHEPPEGRELL.

OTOLOGICAL.

The Use of Cold Water in Diseases of the Ear.

At a recent meeting of the Hungarian Otologists and Laryngologists (*Monatsch. f. Ohrenhlkde*, xxix., 4), Dr. Boeke stated that he used ice bandages, or the Leiter's apparatus, in the following conditions of the ear:

1. In traumatic cases in which the external parts of the ear have suffered.
2. In inflammatory processes of the auricular canal, drum-membrane, tympanum or the mastoid process.
3. In chronic suppuration, when sensitiveness, pain or even œdema of the skin develops over the mastoid process.

To support the efficacy of this treatment, Dr. Boeke gives the clinical history of several cases: two cases of traumatism with cerebral symptoms, one case of chronic purulent otitis media, in which, after the use of creolin, there was unconsciousness, stupor and high fever, and a case of suppurative inflammation of the tympanum complicated with facial paralysis. In all of these cases the result was excellent. Also in cases of grippal otitis media, especially in the early stages, in which the results are surprisingly successful.

SCHEPPEGRELL.

Oxygen in Aural and Nasal Diseases.

Excellent results are reported from the inhalation of oxygen in three chronic cases. In one, a woman suffering from syphilitic ozena of five years' duration, the disease had proven rebellious to all forms of treatment. Most of the internal nasal structures had been lost. One cubic foot of gas was inhaled every second hour during the day. After one month's treatment, without further medication, the patient was free from all disagreeable odor. The second case was a young, anemic girl with some menstrual disorder. She was a subject of chlorotic ozena, which had existed for two years. After three days' treatment with oxygen the odor had vanished. In sixteen days crust formation had ceased. Case three was a girl fourteen years old, in whom a suppurative otitis media followed scarlet fever seven years previously. During this time a dark-colored, offensive discharge appeared from both ears. Oxygen was administered for about four hours a day during nine weeks. The offensive discharge and smell disappeared during the first ten days.—GEORGE STOKER, England, *American Medico-Surg. Bull.*, June 6, 1896. LEDERMAN.

Contribution to the Diagnosis and Treatment of Cholesteatoma, Etc.

Otologists, according to the author, agree that cholesteatoma of the middle ear is not "a primary tumor-formation, but rather a replacement of the epithelium of the mucosa by an epidermic covering, the superficial layers of which are cast off and collected in the form of tumor-like masses."

He claims that a diagnosis can only be made with certainty, if by inspection, an epidermic transformation of at least a portion of the mucous membrane of the middle ear can be demonstrated. The existence of cast-off, scaly epidermis debris in the middle ear favors the diagnosis. Bezold has remarked that "as soon as the sharp boundary between the cutis and mucosa disappears at any point by destruction of the surface, we observe the cutis (or epidermis) spreading out, and gradually replacing the mucosa." This does not take place if the perforation in the drum is central. If, however, the perforation is marginal, or if the edges of a central perforation become attached to the inner wall of the tympanum, the disease is liable to appear.

The most radical method of curing the disease, if same affects the aditus and antrum, is by chiseling the mastoid process, and resecting the upper and posterior wall of the meatus. If urgent symptoms present, then radical measures (as above) must be carried out. If such symptoms are wanting, conservative treatment may result in a cure.—A. SCHEIBE, Munich, *Archives of Otology*, April, 1896.

LEDERMAN.

Necrosis of the Labyrinth.

Patient, boy, 3½ years old; suppurative otitis media, occurring as a result of an attack of measles (Rueda, of Madrid, *Revue de Laryngol.*, 1896, No. 11). The case progressed to a necrosis and exfoliation of a considerable portion of the labyrinth, comprising the lower portion of the vestibule, the posterior half of the superior semi-circular canal, the ampulla of the inferior semi-circular canal, and a portion of the first spiral of the cochlea. The results were: facial paralysis, and a temporary disturbance of equilibrium, with a tendency to stagger and fall on the affected side. The sequestrum was removed through the external auditory canal, and a complete recovery followed. Rueda states that the patient now hears words with the affected ear at a distance of *twelve feet*.

Foreign Body in the Eustachian Tube.

A resumé of the cases thus far published of "Foreign Bodies in the Eustachian Tube," from various sources (naso-pharynx, external canal or tympanum), precedes the report of a case occurring in Prof. Wagenhäuser's clinic (Camerer, *Archiv. f. Ohrenheilk.*, Vol. 40, No. 1).

A boy, 6 years of age, had fallen from a wagon fifteen months previous to his entrance to the clinic, and a piece of straw had been driven into the mouth. The visible portion had been removed at the time. One month later the right lateral pharyngeal area presented a swollen condition, and otorrhea appeared in the right ear. A cicatrix was noted on the glosso-palatine arch. The otorrhea continued for one year, and lately aural hemorrhage had been observed on the affected side. On examination, the canal was found filled with a dark, offensive-smelling, inspissated mass; the fundus exhibited a quantity of granulations, under which the probe detected roughened bone; on further manipulation, a hard, movable body was discovered, which, on removal, proved to be a piece of straw, 4½ cm. long and 2 mm. thick. The patient made an excellent recovery.

Clinical Examination of Deaf Mutes.

S. T. Walker, superintendent Illinois Institute for the Education of the Deaf and Dumb, Jacksonville, Ill. (*Cincinnati Lancet-Clinic*, July 4th, 1896), emphasizes the importance of making a careful aural examination of all deaf children in State and other institutions, where they are under constant supervision, and describes in detail the excellent method in use at the Illinois State Institution.

In summary, the purposes of such examinations, systematically conducted, are:

1. To establish more accurate data of the etiology of deafness. These statistics can be compiled to include every minutiæ of the examination, and, if a similar procedure is carried out in the various institutions, may become a source of valuable information to this important department of otology.

2. To employ otological treatment in many cases which, as the examination would prove, could be materially benefitted. Walker states that seventy per cent. of the children attending the Illinois State Institution for Deaf Mutes have not had a careful inspection of the ears, with a view to correct diagnosis. If this is the case the value of such examinations cannot be overestimated, as a careful course of treatment may restore many of these children to complete usefulness.

3. To encourage co-operation between superintendents and directors of the various institutions for the deaf and the otologists. Should the interests of the professional at large be enlisted, and the active participation of the aurists be secured, the mutual benefit derived from the combined data would materially advance the interests of otology.

Artificial Ear-Drum Membranes.

Dr. Vincent Gometz says (*New Polyclinic; The Journal of the American Medical Association*, July, 1896): The artificial-drum membrane was first used by the laity in 1640, and afterward by the profession. It has been made of a variety of materials. Yearsley, in 1841, selected a cotton pellet for the purpose. It is first slightly moistened and placed in the same position where it will best improve the hearing. This will be found by experiments. Toynbee, in 1853, introduced an artificial membrane, consisting of a thin rubber disc attached to a fine wire. Lucae has covered the wire with rubber tubing, to prevent the unpleasant rattling in the ear. Gruber uses a similar piece of rubber as that of Toynbee, but attaches to it a piece of silk thread to withdraw it from the ear. Artificial drums are sometimes made of tin foil, used in the same manner as cotton. Ordinary blotting paper answers the purpose very well. The indications for the use of the artificial-drum membrane are as follows: 1, when a drum cavity needs protecting from the air; 2, whenever the ossicula are detached from each other, the result of destruction of their ligaments or from failure of the membrane to keep them in proper contact; or even a severance of continuity consequent on relaxation of the ligaments or absence of the incus, with a gap existing between the membranes and the stapes (the latter also may be in a state of subluxation from relaxation of its annular ligament), the artificial membrane keeps it properly in position.

NEW INSTRUMENTS.

Adenoid Forceps.

A new form of adenoid forceps was presented at the New York Academy (Laryngology and Rhinology Section) by Dr. F. J. Quindon (*Am. Med.-Surg. Bulletin*). The cutting end of the forceps was in the shape of a cone. The advantages claimed were: an easier manipulation; ease of introduction; the main feature, that of occupying a small space in the naso-pharynx.

A Naso-Manometer.

Dr. Jonathan Wright (*Am. Med.-Surg. Bulletin*), at a recent meeting of the Laryngological and Rhinological Section of the New York Academy of Medicine, presented his instrument for the measurement of nasal obstruction—a *naso-manometer*.

The apparatus has been successfully applied in the determination of various forms of nasal obstruction, and has been found a valuable aid to the correct diagnosis of this class of cases.

The apparatus consists of a graduated U-shaped tube, partially filled with colored liquid, connected to a small metal tube by a length of rubber tubing. The small metal tube is placed to the patient's nostril, and the patient directed to inspire. By comparing the varying height of fluctuation of the liquid during inspiration the potency of the two nasal canals can be compared.

By aid of this manometer it is also possible to determine and establish a relative standard for normal respiration, which may be of great service in examinations of the nose and an aid in detecting nasal obstruction.

The naso-manometer can be attached to the wall or placed on the instrument table.

BOOK REVIEWS.

Acoustic Exercises in Deaf-Mutism, and in the Deafness of the Aged.—By Professor Victor Urbantschitsch, of the University of Vienna. Published by Urban and Schwarzenberg, Vienna.

In this excellent volume Urbantschitsch records his many experiences and experiments with a systematic acoustic gymnastics, as conducted in the Oberdæbling Institute for Deaf-Mutes, the Vienna Polyclinic, private practice, etc.

Acoustic gymnastics, methodically conducted, is the basis of the work. By acoustic gymnastics is meant the developing of the latent auditory nerve by aid of the human voice, systematically applied, with the result that the hearing capacity in many individuals is gradually stimulated and improved; in other words, the awakening to activity of one special sense by the patient and direct use of another; a system of vocal training of the auditory nerve.

Space does not permit even a brief review of this method, as employed by Prof. Urbantschitsch; to obtain a detailed knowledge of the matter, the reader is referred to the study of the volume, also to an English translation of an earlier publication of Urbantschitsch, by Dr. M. A. Goldstein, which appeared in the *Archives of Otology*, Vol. xxiv., No. 1, 1894.

Too much cannot be said of the decided beneficial effects derived from the application of this method in the training of deaf mutes; and even in such cases where the improvement in hearing has not been marked, the favorable influence on the disposition, the mental condition, and improvement in articulation and pronunciation has been noted.

Every aurist should give this "acoustic gymnastics" method a trial when opportunity presents itself.

Autoscopy of Larynx and Trachea (dispensing with laryngeal mirror). — By Dr. Alfred Kirstein, of Berlin. Published by Oscar Cablenz, Berlin, 1896.

Autoscopy is a new method of examination of the laryngeal area by the aid of an ingenious apparatus devised by the author. In a 40-page brochure, Kirstein explains the construction, manner of application and advantages of his new autoscope. Its applicability for practical work is now being tested by several prominent American laryngologists.

Diphtheria and Its Associates.—By Lennox Browne, F.R.C.S., Edin. Illustrated by the author. 8vo., pp. 272. [London: Bailliere, Tindall & Cox. Philadelphia: J. B. Lippincott Co. 1895. Price, $5.00.

It is seldom that a scientific work that is intended to become standard is brought so thoroughly "up to date" as the volume under consideration. The first 226 pages are devoted to the thorough and systematic consideration of diphtheria and its associates, according to what the author aptly terms the "well-established methods of the classical treatment of diphtheria." This portion of the work is scholarly and exhaustive, and is thoroughly illustrated. The reproduction of microscopical slides is excellent, and the color work artistic. The Appendix, consisting of 37 pages, is entirely devoted to the serum treatment of diphtheria. The author deprecates the blind acceptance of this new idea of treatment. While startling reports have been made from many continental hospitals regarding the great decrease in the death rate, it is noted that in these hospitals the death rate, under the use of the serum treatment, is just about the same as in the London hospitals under the old-style treatment. Every physician who is called upon to treat the disease should by all means procure a copy of the work. It is the best we have ever had the pleasure of reading.

BOOKS AND PAMPHLETS RECEIVED.

Pharyngeal Tuberculosis. By Robert Levy, M.D., Denver, Colo. Reprint *Denver Med. Times* for June, 1896.

The Treatment of Laryngeal Tuberculosis by the Application and Submucous Injection of Creosote. By Walter F. Chappell, M.D., M.R.C.S., Eng. Reprint, *N. Y. Med. Jour.*, 1895.

A New Semi-fluid Product, Oleo-Stearate of Zinc. By Walter F. Chappell, M.D., M.R.C.S., Eng. Reprint, *N. Y. Med. Jour.*, 1896.

Observations on the Creosote Treatment of Tuberculosis of the Upper Air-Passages. By Walter F. Chappell, M.D., M.R.C.S., Eng. Reprint, *N. Y. Med. Jour.*, 1896.

Some Interesting Laryngeal Neoplasms. By Walter F. Chappell, M.D., M.R.C.S., Eng. Reprint, *Manhattan Eye and Ear Hospital Reports*, 1895.

We are in receipt of the Sixth Annual Report of the New Orleans Eye, Ear, Nose and Throat Hospital, and congratulate Dr. de Roaldes and his efficient staff on their continued success with this excellent institution. Nearly 3000 cases were treated in the nose, throat and ear department in the past year. A special feature of the report is a well-arranged, classified, tabulated report of cases treated.

Diseases of the Accessory and Nasal Cavities. By J. A. Stucky, M.D., Louisville, Ky. Reprint from the *Am. Practitioner and News*, June 27th, 1896.

NEWS ITEMS.

Professor Klebs.

America, and particularly Chicago, should be congratulated on the valuable acquisition to the American medical fraternity by the arrival of Professor Edwin Klebs, the distinguished German pathologist.

Professor Klebs has been elected to the chair of pathology and bacteriology in the Post-Graduate Medical School and Hospital of Chicago, and we are certain that the efforts of this eminent pathological authority of the German universities, and of Klebs-Löffler bacillus fame, will be crowned with future success.

Death of Dr. Samuel Sexton.

Died, July 11th, Dr. Samuel Sexton, New York; æt. 63. With the death of Samuel Sexton, America has lost one of its most energetic and representative otologists. For the past twenty-five years, Sexton has been eminent as an excellent teacher, a prominent clinician and successful aurist. He was an indefatigable worker in otological science and was a leader of the radical school. He distinguished himself as a writer, and has made some valuable contributions to otological literature. His principal work, "The Ear, and Its Diseases," published in 1888, is an American standard in otology.

Death of Dr. Pipino.

On the evening of June 3d, Dr. W. C. Pipino, of Des Moines, came very suddenly and unexpectedly to his death. While riding on horseback in the north part of the city his horse threw him with such violence that his skull was very badly fractured. A number of his medical friends were soon called to his assistance, but his injury was too severe to admit of hope, and he lived but a few hours. Dr. Pipino had become one of the best known eye and ear authorities of the West. He was a member of various medical societies, and he was a liberal contributor to the medical press. He was born in Baltimore, Md., and once practiced medicine in Mexico, Mo. He was a Thirty-second Degree Scottish Rite Mason and an Elk. He leaves a widow, a son, a daughter, and a host of friends, to all of whom his death causes profoundest sorrow.

A Bacteriological Department.

The Central London Throat, Ear and Nose Hospital has added a bacteriological department, in charge of George C. Reid, M.R.C.S.

Heidelberg's Chair of Otology.

Dr. Passow, assistant to Professor Trautmann's otological clinic in the University of Berlin, has been appointed Professor of Otology in the University of Heidelberg, to succeed the late Professor Moos.

Western Ophthalmological, Otological, Laryngological and Rhinological Association.

This society meets in St. Louis, April, 1897. Dr. Adolf Alt, president, St. Louis; Dr. Hal. Foster, secretary, Kansas City, Mo.

The Mississippi Valley Medical Association.

The Mississippi Valley Medical Association will meet September 15, 16, 17, 18, in order to permit the members and their families to take the opportunity accorded by this change to make a pleasant tour through the Yellowstone Park. Favorable terms for this additional trip will be made; and it is desired that all parties desiring to avail themselves of the excellent opportunity to visit this wonderful region send their names to Dr. C. A. Wheaton, Chairman of the Committee of Arrangements, St. Paul, at as early a date as possible.

The American Electro-Therapeutic Association.

The Sixth Annual Meeting of the American Electro-Therapeutic Association will be held September 29th and 30th, and October 1st, 1896, in the Studio Building, Boston, Mass.

The Brunswick Hotel, corner Boylston and Clarendon Streets, will be the headquarters of the Association during the meeting. Terms reduced to four dollars per day, for Fellows and their friends. The Copley Square Hotel, corner Exeter Street and Huntington Avenue, terms reduced to three dollars per day, is also located in close proximity. For rooms, etc., apply either to the proprietors, or to Dr. W. H. White, No. 222 Marlborough Street, Boston, Mass., who, as the Vice-Chairman of the Committee of Arrangements, will reserve rooms. Prof. A. Dolbear, Tufts' College, Mass., is the Chairman of the Committee of Arrangements; Dr. Frederick H. Morse, Melrose, Mass., is the Chairman of the Committee of Exhibition. The next annual meeting promises to be a greater success than any former one. Great interest is shown in all quarters.

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ORIGINAL COMMUNICATIONS.

A FEW HINTS ON THE USE OF THE TUNING FORK IN EAR DIAGNOSIS.*

BY G. MELVILLE BLACK, M.D., DENVER.

Professor of Laryngology and Rhinology in the Colorado School of Medicine; Ex-House Surgeon to the Manhattan Eye and Ear Hospital, N. Y.

Inasmuch as intelligent treatment is dependent upon a positive diagnosis in almost all pathological conditions, and as the detriment or benefit from such treatment depends upon the nature and location of the disease, it becomes essential that an accurate knowledge of the nature of the disease, its intensity, and its location be known if possible.

There is probably no part of the body that gives more positive signs of disease, and yet is more difficult of classification as to its character and exact location, than the ear.

Disease of the external ear and auditory canal is apparent enough; yet here, because of an occlusion of the canal by the pathological process, doubt may exist for some days as to how far it extends. It is in differentiating between diseases of the tympanic cavity and the labyrinth that is most confusing; in order that we may establish the diagnosis on subjective symptoms it is necessary to call into use every thing at our command.

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*Read before the Colorado State Medical Society, June, 1896.

Hartmann's set of five tuning forks, consisting of C, C^{i}, C^{ii}, C^{iii}, C^{iv}, with the following vibrations to the second for each fork respectively, 128, 256, 512, 1024, and 2048, when used in the following manner give very positive results:

The length of time each fork is heard by each ear when held vibrating close to the meatus, and the length of time each is heard with the handle of the same pressed firmly against the mastoid, affords an accurate estimate of the ærial and bone conduction. This, in my opinion, is the greatest province of the tuning fork.

Rinne's and Weber's tests are both based on the principle of the relative proportion of aerial and bone conduction.

By timing the duration of aerial and bone conduction with a split-second watch, we eliminate the possibility of misleading answers on the part of the patient. For instance, by attempting to note whether aerial or bone conduction is increased, one over the other, it is a common thing for observers to set the fork in vibration and hold it close to the meatus, and the patient instructed to note how loud it sounds; then the fork is again set in vibration, and the handle pressed against the mastoid, and the patient instructed to compare the tones and state which sounds the louder. Here we have to depend entirely upon the patient to give a correct answer, which it is often very hard for him to do if ærial and bone conduction are about the same. Rinne's test is equally liable to error. Weber's test is inaccurate, unless accompanied by other tests: *e. g.*, the fork is set in vibration and the handle pressed against the front teeth, or on the median portion of the frontal or parietal bones, and the patient instructed to note whether the sound is louder in either ear. Suppose he says it is heard more distinctly in the right ear, what does it signify? That he has either a normal ear or a diseased middle ear on the right side, or a disease of the internal ear or a normal ear on the left side. Consequently other tests must be employed to locate the seat of the disease.

By simply timing in seconds the duration of both aerial and bone conduction for each ear, all other tests are embraced, and faulty answers of the patient eliminated.

The following table shows in seconds the time a normal ear should hear the various forks, by bone and aerial conduction. The fork marked C_{-} is Denche's, and has 64 vibrations to the second. The remaining forks are Hartmann's, with the vibrations as before given:

	Air.	Bone.		Air.	Bone.
C −	10	9	C^{ii}	48	15
C	37	15	C^{iii}	30	10
C^{i}	32	18	C^{iv}	22	8

By this series of tests we establish at once whether or not the bone or aerial conduction is out of balance. For example, take the following case with H. D. 1′ for a 150″ watch.

	Air.	Bone.		Air.	Bone.
C −	0	0	C^{ii}	10	9
C	0	10	C^{iii}	15	10
C^{i}	6	11	C^{iv}	13	6

It is to be seen at once that both aerial and bone conduction are lowered, but that the aerial conduction is more shortened than the bone conduction, showing an involvement of the middle and internal ears.

The following record shows the relation in chronic inflammation of the middle ear. Man aged fifty years. Duration six months.

	Air.	Bone.		Air.	Bone.
C −	7	9	C^{ii}	26	27
C	7	25	C^{iii}	18	16
C^{i}	16	20	C^{iv}	17	13

The next is a case of sclerosis of the middle ear, in a woman thirty-five years of age. The symptoms date back seven years.

	Air.	Bone.		Air.	Bone.
C −	0	11	C^{ii}	12	23
C	0	21	C^{iii}	8	14
C^{i}	0	24	C^{iv}	14	14

It is to be seen in the last two cases, by comparing them with the table of normal aerial and bone conduction, that bone conduction is prolonged over the normal, and that aerial conduction is considerably shortened below the normal; which indicates faulty action on the part of the transmitting mechanism, *i. e.*, that the disease is situated in the middle ears.

The following is a record from the case of a woman, aged fifty-seven years, of disease of the internal ear, with symptoms dating back twenty years:

	Air.	Bone.		Air.	Bone.
C −	0	0	C^{ii}	14	3
C	17	14	C^{iii}	10	0
C^{i}	14	8	C^{iv}	7	0

It will be noticed in this case that both aerial and bone conduction are shortened, but that the bone conduction is much more shortened than the aerial, which indicates a faulty sound-perceiving apparatus, *i. e.*, a disease of the internal ear.

We have learned from post-mortem examinations upon subjects, upon whom careful examinations have been made before death, that the labyrinth shows disease of the lower turns of its cochlea when perception of the higher tones has been altered, and that the upper turns of the cochlea are diseased when the lower tones have been altered. From these facts we can, with the forks and Galton's whistle, locate the seat of the labyrinthian disease with a fair degree of accuracy.

In long-standing disease of the middle ear, changes frequently take place in the lower turns of the cochlea, which is indicated by faulty perception of high tones.

My experience has been that *little can be expected from treatment in chronic inflammation of the middle ear when bone conduction is markedly lowered for the forks* C^{i}, C^{ii}, C^{iii}. *A favorable prognosis can usually be given when bone conduction for these forks is notably prolonged.* When the low forks, C^{-}, C, and C^{i}, are only heard for a few seconds by bone and aeriel conduction, and the remaining forks are heard longer by air than bone, we are justified in diagnosticating a circulatory disturbance of the labyrinth, which almost always first affects the organs of Corti in the beginning turns of the cochlea. It may be either hyperemia or anemia.

The tuning forks cannot be relied upon to make a diagnosis, but rather to assist in making it, together with the symptoms in the case, the appearance of the drum-head, and the condition of the Eustachian tubes. The alteration of the patient's voice I always consider important. In marked middle-ear involvement alone the patient speaks in an unusually low voice, with a nasal twang. In labyrinthian disease the voice is loud and clear. This is due to the increase in bone conduction in the former case, and diminished bone conduction in the latter.

Vertigo is a symptom usually present in acute labyrinthian disease, but is frequently observed in middle-ear disease, from pressure of the stapes in the oval window of the labyrinth, and from the diminished air-pressure in the middle-ear sucking the round window outward, thereby causing a disturbance in the pressure of the endo-lymph and para-lymph, which in turn brings about circulatory disturbances. These attacks of vertigo when due to middle-ear disease are usually translucent, and are largely to be accounted for in the aforesaid manner.

I have benefited a number of cases by appropriate treatment, based upon a careful diagnosis, that I am satisfied would not have been benefited had no pains been taken to discover the nature and location of the disease.

Again, great care in diagnosis renders us capable of separating cases that cannot be benefited from those amenable to treatment. There is no satisfaction in encouraging a patient to undergo treatment, and after two or three months' persistent treatment in discharging him unimproved and much dissatisfied. How much better it would have been to tell him in the beginning, "I cannot help you;" or, "Your case is beyond repair."

By a close study and persistent use of the series of tuning forks of Hartmann's you are sure to be pleased with the ease with which you are able to arrive at an accurate diagnosis and prognosis.

INTUBATION IN THE ADULT, WITH SPECIAL REFERENCE TO ACUTE STENOSIS OF THE LARYNX.*

BY W. E. CASSELBERRY, M.D., CHICAGO.

Professor of Therapeutics and of Laryngology and Rhinology in Northwestern University
Medical School; Laryngologist and Rhinologist to St. Luke's Hospital;
Laryngologist to Wesley Hospital, etc.

Although chronic stenosis of the larynx, especially of the syphilitic and tuberculous types, has received due attention in reference to treatment by intubation in the adult, the management of acute stenosis by the same means has received as yet but little notice.

It does not suffice to assume that the adult may be dealt with exactly like a child, or that the treatment of acute stenosis with its associated state of helplessness and exhaustion is identical with that of chronic stenosis. Important distinctions obtain both as regards the technique of the intubation and the possible scope of the operation.

The six cases related embrace four of laryngeal diphtheria, one of acute œdema of the larynx, and one in which the stenosis was of obscure origin, but probably also œdematous.

The diphtheritic cases all terminated favorably, but presented various difficulties in the performance of the intubation; notably in one, the necessity to intubate with the patient in a recumbent or semi-recumbent posture in bed, to accomplish which the best position was with the patient on the right edge of the bed, and the operator standing to the patient's right, in which location one's right arm rises in front of the patient's mouth, without awkward twisting of the operator's body. In another, at one time, firm spasm of the glottis, which was actually seen in the laryngeal mirror to occur, rendered a third effort necessary before the tube slipped into place. It was done under laryngoscopic view, by holding the tube firmly at the entrance for a few moments, which excited cough and with it the opening of the glottis. All the cases showed some intolerance to the presence of the tube, as manifested by more frequent expulsion than with children. One case nearly succumbed from accumulation of viscid mucus, not in the tube, but in the trachea and larger bronchi below and around the tube; which condition was at once suspended by the extraction of the tube.

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*Abstract of a paper read at the last meeting of the American Laryngological Association, June, 1896. Original paper in full in the hands of *New York Med. Journal*, for publication in due time.

The case of acute œdema of the larynx was complicated by chronic spasm of the masseter muscles, which prevented wide distension of the jaws; in consequence, intubation failed, the patient being measurably exhausted by the two efforts made. Tracheotomy was performed, but the patient died just as the operation was completed, presumably from failure of the heart in connection with secondary œdema of the lungs. Immediately post-mortem, the diagnosis was confirmed, and the feasibility of intubation demonstrated in acute œdema of the larynx, with a patient recumbent, possibly collapsed, but uncomplicated by "setting" of the jaws, by (after death) forcibly distending this patient's jaws, when the tube could be passed and repassed with ease.

The liability to pressure decubitus by the tube in acute œdema of the larynx should be remembered, and not too large a tube inserted.

The other case, which was presumably one of œdema of the larynx or of sub-glottic œdema, terminated favorably and without difficulty.

The following conclusions as to technique are formulated:

1. For one accustomed to the use of the laryngoscope, intubation on adults is easier and more certain under its guidance; therefore for a patient of adequate composure and able to maintain the sitting posture this method should be selected.

2. A patient lacking only composure, one whose inclination is to resist rather than to assist the operator, may be closely wrapped in a blanket to pinion the arms and legs, seated in a straight-back chair, the head inclined slightly backward, the mouth gagged, and the finger used as a guide, as with children.

3. A patient lacking strength to move from bed and composure, or strength for laryngoscopic insertion, should be placed close to the right edge of the bed, so that the operator can stand at the patient's right side; the head and shoulders should be well raised by pillows, the neck moderately extended, and the method by the sense of touch otherwise fulfilled. Kneeling on the bed in front of the patient is unnecessary.

4. A patient who is moribund, or nearly so, may have the tube inserted while in a recumbent position. He should be placed on the right edge of the bed, and the operator should therefore stand to the patient's right.

Spraying the fauces with a five per centum solution of cocaine facilitates introduction by whatever method, and tends to lessen the liability to premature expulsion.

The extraction of the tube is especially easy under laryngoscopic illumination; otherwise it is done in accordance with the same principle as regards the position of the patient as pertains to its introduction.

The author's posture method of feeding subsequent to intubation, by inclining the patient's head and shoulders downward, in which position fluids may be swallowed without gravitating through the tube into the lungs, can be successfully used with adults; but naturally with more difficulty at first than with children, on account of unmanageable weight and size. It is best done by hanging the head and shoulders over the edge of the bed downward nearly to the floor. Otherwise, adults, more readily than children, may be fed upon semi-solids, as custards, stiff corn-starch, and oysters, which will slide over the top of the tube without entering it.

Regarding the scope of intubation for acute stenosis in adults, the four cases of laryngeal diphtheria herewith reported, all of which terminated favorably, justify the conclusion that this operation may with advantage be substituted for tracheotomy in that disease.

Concerning acute œdema of the larynx, one's position is not so clear. The operation is technically feasible in uncomplicated cases, even when exhaustion is extreme and I would consider a single attempt justifiable, provided, in order to guard against pressure decubitus, the smallest size of the adult's set of tubes is first selected.

When complicated by having the jaws "set," or by pharyngeal swellings, which might obstruct the top of the tube, either or both of which conditions may be encountered in cases of acute œdema of the larynx, secondary to peritonsillar abscess, Ludwig's angina, phlegmonous angina, vetro-pharyngeal abscess, etc., intubation is absolutely contraindicated, and fruitless efforts thereat can only serve to intensify the exhaustion and suffering of the patient.

There are other acute conditions, or acute exacerbations of chronic states, which might be remedied by intubation. In a case of arthritis deformans which suffered an acute exacerbation involving the larynx, the dyspnœa was so urgent that I expected to be compelled to intubate at any moment for several days.

Traumatic œdema of the larynx, as by scald, corrosion or fracture, might in suitable cases be treated in this way.

Laryngismus stridulus or reflex spasm of the glottis, though rare in adults, might constitute another indication.

Also œdema of the larynx, secondary to chronic syphilis or tuberculosis, might come within the same category, since the œdema may figure as an acute exacerbation provoking sudden and urgent dyspnœa.

The treatment of chronic stenosis of the larynx and trachea by intubation is not included within the scope of this paper.

34 Washington Street.

THE LITHÆMIC THROAT.

BY REYNOLD W. WILCOX, M.D., LL.D.

Professor of Medicine and Therapeutics at the New York Post Graduate Medical School and Hospital; Physician to St. Mark's Hospital.

I wish to say a few words about a throat which we all have seen and treated, but which we may not always fully appreciate. Our patients come to us with the complaint that, although they are not conscious that they have taken cold, yet their throats are sore. Careful inquiry develops the fact that they have been under unusual mental strain during the few days preceding their visit. Or it may be that they have recently attended several dinners and to the postprandial cigar they attribute their condition. Or it will become apparent that their failure in physical and mental vigor has been gradual, but within a few days unusual demands have been made upon them, with the result that prostration has supervened. With all the various symptoms which may be present, total absence of nasal symptoms will be remarked. They tell us that swallowing is painful and difficult; there is a stiffness of the throat, it feels dry and rough. The discomfort, together with the physical prostration, causes them to imagine that they are seized with some serious disease—generally it is diphtheria.

The physical examination reveals practically no general physical signs. The pulse may be slightly accelerated, the temperature a little elevated, but as frequently both are normal. Upon inspection we find generally one or more of the following conditions present:

1. Throat uniformly reddened and of a glazed appearance.
2. The condition formerly known as granular pharyngitis.
3. Some œdema of soft palate and pillars of fauces.
4. Blood vessels of throat dilated and tortuous.
5. A tenaceous, glairy secretion, generally scanty, covering the posterior wall of the pharynx.
6. The tongue coated or reddened with prominent papillæ.

Posterior rhinoscopic investigation shows that the naso-pharynx participates in the diseased condition. The remarkable fact which impresses itself upon the observer is, that the physical signs are insignificant when we consider the discomfort to which the underlying anatomical conditions give rise. Success in the treatment of these patients can only be obtained when both patient and disease are treated. The general condition can be obviated, but the recurrent local attacks demand attention. Failure awaits the practitioner who considers that his specialty ends with the first tracheal ring. Topical applications give speedy relief, and thus the patient goes on in contentment until the general condition is improved. Locally the naso-pharynx should be cleansed by rather vigorous spraying with a warmed alkaline aqueous solution, constructed after the type of Dobell. The vault of the pharynx should be thoroughly covered by a hot (not warm) vaseline solution, to which a few drops of oil of wintergreen or methyl salicylate have been added. This is best done by a Rumbold No. 4 spray-producer, acting under low pressure—not over ten pounds to the inch, and preferably less. Then clear vaseline, in small quantity, used in the same way is sprayed into the nose through a No. 2. Next through a No. 3 tube the upper posterior wall of the pharynx is treated with the mixture; and finally with aid of Nos. 1 and 6 the operation is completed. The order of use is important; for if No. 3 is used before the way is prepared, gagging and even vomiting may result from irritation of the highly-sensitive throats. Sometimes oil of eucalyptus, in small quantity—just enough to taste—may be used in place of the wintergreen. Usually, however, it is not preferable. Failures chiefly arise from: (1) too great pressure; (2) too cool solutions; (3) adulterated vaseline; and (4) too much of the drug in solution. The comfort derived from this application can only be appreciated by one who has experienced it. In addition, six grains of salophen, or three of sodium salicylate, should be given every hour or two, until the local appearance and symptoms subside. The former, being tasteless, can be given as a powder; the latter is preferable, given well rubbed-up with thirty grains of the pharmacopœial effervescent citrated caffeine in a half-glass of water. At bedtime thirty grains of lithium citrate should be administered in the effervescent magnesium citrate, striving rather to obtain diuresis than purgation. Of the general treatment of the patient, in order that future attacks may be avoided, nothing need be said at this place. My personal views upon the subject of the treatment of lithæmia are to be found in the "Transactions of the Medical Society of the State of New York for 1893." To one who is acquainted only with the older methods of relief from this condition, the testimony of the patients will come as a revelation. I ask, then, for a recognition of the underlying cause of the local condition and its treatment by protective and lenitive applications.

749 Madison Ave.

THE CLINICAL INVESTIGATION OF EAR DISEASES.

BY J. DUNDAS GRANT, M.D., F.R.C.S., LONDON.

Senior Surgeon Central London Throat and Ear Hospital.

PART III.

General Condition and Special Extra-Aural Symptoms.

THE GENERAL CONDITION

of the patient requires careful investigation, the direction of enquiry depending on the particular "aural" symptom chiefly complained of. What the direction in each case should be has been suggested under each heading, but the following indications may be found of some value:

We may have to deal with the

DANGEROUS SEQUELÆ OF ACUTE OR CHRONIC SUPPURATION.

In acute suppurative otitis we have to be on the look-out for symptoms of mastoid disease, meningitis and septicemia. Intense headache, vomiting, photophobia, high temperature, constipation, delirium, retraction of the neck, are not likely to be overlooked, as indicating meningitis, but the earlier symptoms may be produced by inflammation confined to the tympanum. (In this case incision of the membrane affords an amount of relief which it could not do in meningitis.) The occurrence of oscillations of temperature with rigor, and perhaps diarrhea, would point to septic absorption, and later metastatic suppuration.

Chronic suppurative otitis is a much more frequent cause of danger from cholesteatoma, erosion, and perforation of bone, leading by more or less direct infective extension of disease to subdural abscess, cerebral or cerebellar abscess, meningitis, phlebitis and thrombosis of the lateral sinus, and pyemia.

Cholesteatoma may be suspected if an otorrhea of old standing is obstinate under treatment, and there is in the syringing water a quantity of white shiny membrane, more than the appearance of the meatus would account for, or occurrence of headache and mastoid pain from time to time.

Erosion of bone may occasionally be felt with the probe, but the more usual situations are in the tegmen tympani and antrum beyond the reach of justifiable probing. It can hardly be totally absent in any long-standing case of middle-ear suppuration, especially in tuberculous subjects, and is to be particularly suspected if pain is complained of.

The following are the chief symptoms to be sought for:

Headache may be dull and localized in encephalic abscess, but in meningitis it is intense and general.

Temperature, if oscillating, indicates sinus-phlebitis or pyemia; if normal or subnormal, encephalic abscess. In the other conditions it is persistently high.

Pulse and respiration are apt to be slow and regular in abscess, but rapid in all the other complications, their irregularity being notable in meningitis.

Rigors may occur at the commencement of any, but well-marked initial rigors are characteristic of sinus-phlebitis, and, when repeated, of pyemia.

Vomiting occurs early in meningitis, sinus-phlebitis or pyemia; later in cerebral or cerebellar abscess.

The bowels are obstinately confined in meningitis, and generally in encephalic abscess, but in the other conditions diarrhea is not uncommon as the result of septic absorption.

The cerebral condition may be one of early and violent delirium, as in meningitis; or there may be extreme sluggishness culminating in coma, as in encephalic abscess.

Paralysis of particular sets of muscles, or of sight, or hearing, may be present in disease of the corresponding cortical centres, thereby rendering accurate localization of the lesion more practicable.

The ophthalmoscope is of frequent service. Unfortunately, in cerebral abscess its evidence, whether positive or negative, is of little diagnostic value, but along with other symptoms the presence of optic neuritis confirms the diagnosis of a serious degree of mischief. Its occurrence in case of foreign body in the tympanic cavity would call for operative proceedings which without it might be unjustifiable. It is frequent in phlebitis of the sinus, but it is sometimes present in uncomplicated middle-ear suppuration.

IN NON-SUPPURATIVE MIDDLE-EAR

disease tendency to catarrh, gout, rheumatism, anemia, gastro-intestinal or renal disorders, should be observed.

IN NERVE DEAFNESS

evidences of syphilis, gout, lead or other poison must be sought for, the state of the *nervous system*, and particularly of the *cranial nerves*, especially the fifth, sixth, and seventh, investigated. Associated facial paralysis would suggest implication of the auditory nerve in its cranial course, unless there was suppuration indicating disease of the labyrinth, probably of a tubercular nature. Paralysis of the sixth nerve would similarly suggest a basal meningitis, while if the fifth (sensory) were the nerve coincidently affected, there would be suspicion of a lesion in the nucleus of the auditory nerve. Paralysis of the palatal muscles and vocal cord of the same side would point to a lesion on the posterior surface of the apex of the petrous bone, affecting simultaneously the spinal accessory and the auditory nerves. Hemiplegia or hemi-anesthesia on the same side, or the opposite side, would point to a lesion of the cerebral hemisphere and pons respectively. The peculiar form of deafness—"word deafness"—in which the patient though able to hear sounds cannot appreciate them, as indicating ideas, or cannot understand words, is characteristic of disease of that portion of the auditory cortical centre situated in the left superior temporo-sphenoidal convolution, and opthalmoscopic examination would possibly reveal an optic neuritis indicative of encephalic tumor. Disease of the auditory nerve or nuclei is an occasional accompaniment of locomotor ataxy. The possibilities of *hysteria* and of *simulation* must throughout be kept in view. (*Vide* Gower's "Diseases of the Nervous System.")

IN CASES OF DEAF-MUTISM

the degree of deafness to loud noises, vowels, syllables or words should be noted, also whether the deafness is *congenital or acquired* ("whether the patient has ever heard"). It may be elicited that the child could never be wakened by noises. Enquiries should be made as to a history of ear disease, exanthemata, mumps, injury to the head, meningitis, convulsions, etc., further as to whether the child has *had the faculty of speech and lost it.* Again it must be remembered that instances occur of *dumbness without deafness. Family history* as to neuroses, consanguinity of parents, is interesting if not important.

The course of investigation described above is a somewhat modified and extended reproduction of that scheduled in the case papers employed at the Central London Throat and Ear Hospital. An endeavor has been made to indicate the diagnostic value of the various signs and symptoms, and it is hoped that this outline may assist those in particular who have not had the opportunity of studying diseases of the ear during the pupillary portion of their career.

CLINICAL REPORTS.

ACUTE SUPPURATIVE INFLAMMATION OF THE MIDDLE EAR; ACUTE SUPPURATIVE MASTOIDITIS; ABSCESS OF THE NECK; OPERATION.*

BY SETH SCOTT BISHOP, M.D., D.C.L., CHICAGO.

Surgeon to the Illinois Charitable Eye and Ear Infirmary; Professor of Otology, Post-Graduate Medical School; Professor of Diseases of the Nose, Throat and Ear, Illinois Medical College, etc.

GENTLEMEN:—This man is a cigarmaker, 46 years old, and of temperate habits. Six weeks ago he was taken with severe pain in his right ear, and when he came to this clinic I found the drum head bulging from intra-tympanic fluid.

Under a 20% solution of cocaine I made an incision in the posterior segment of the membrane, extending from a point directly posterior to the short process of the hammer to the inferior periphery. In order to be effective, the opening should be a free one, for there is a strong tendency to closure in a day or two and before the exudate is entirely removed. The cut was followed at once by a copious flow of a thin, serous, muco-purulent discharge, and the pain ceased.

The nurse syringed the ear with a solution of bichloride of mercury, 1 to 5,000—we inflated with a pressure of 15 pounds by means of the improved middle ear inflator.

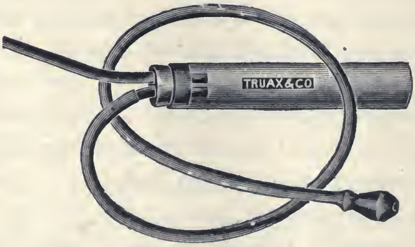

Figure 1. Bishop's Small Powder Blower.

Then the meatus was dried with absorbent cotton, and aristol was insufflated to cover well the drum membrane and canal walls.

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*A Clinical Lecture at the Post-Graduate Medical School and Hospital.

The discharge continued for a few days, but at the end of a week the perforation had nearly closed, and there were pain and great tenderness over the apex of the mastoid process and extending nearly to the lower border of the antrum. We enlarged the perforation by an incision extending from the upper to the lower periphery, treated as before, and applied my mastoid ice bag.

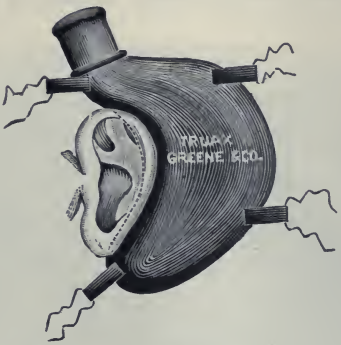

Figure 2. Bishop's Aural Ice Bag.

All pain vanished, and in three or four days the patient expressed himself as feeling so much better he would like to return to work.

However, at this time I discovered a slight swelling and infiltration of the sub-aural tissues of the neck. There was considerable tenderness on pressure beneath the tip of the mastoid, extending downwards and forwards three inches along the course of the sterno-mastoid muscle. All other symptoms were so favorable that, had it not been for this ominous sign, the man could have resumed his daily duties.

The presence of the tumor indicated that the pus had broken through the temporal bone, either forward through the anterior wall of the tympanic cavity, or downward through the cortex of the mastoid process, burrowing under the sterno-mastoid muscle. There was no alternative than to open the mastoid process and the neck abscess, liberate the pus and give free access for treatment of the ulcerating surfaces.

Three weeks ago some of you were present when I performed the modified Stacke operation on the mastoid, and opened the cervical abscess. We found the mastoid antrum and cells filled with pus and unhealthy granulations. We curretted the antrum and apex until nothing but healthy bone was left in every direction.

We entered the neck abscess at the lowest point, passing through the sterno-mastoid muscle and curretted the abscess cavity. It was in communication with the mastoid cells of the apex, and a rubber drainage tube was inserted into the neck opening and passed upward to the mastoid opening beneath the muscle. In order to do as little cutting as possible in the vicinity of the network of veins, arteries and nerves in this region, we dissected cautiously until a small opening was made deep enough to reach the plane of the abscess. Then a strong pair of blunt forceps served to lacerate the tissues to effect a larger opening, by entering the forceps closed, spreading their jaws and slowly withdrawing them.

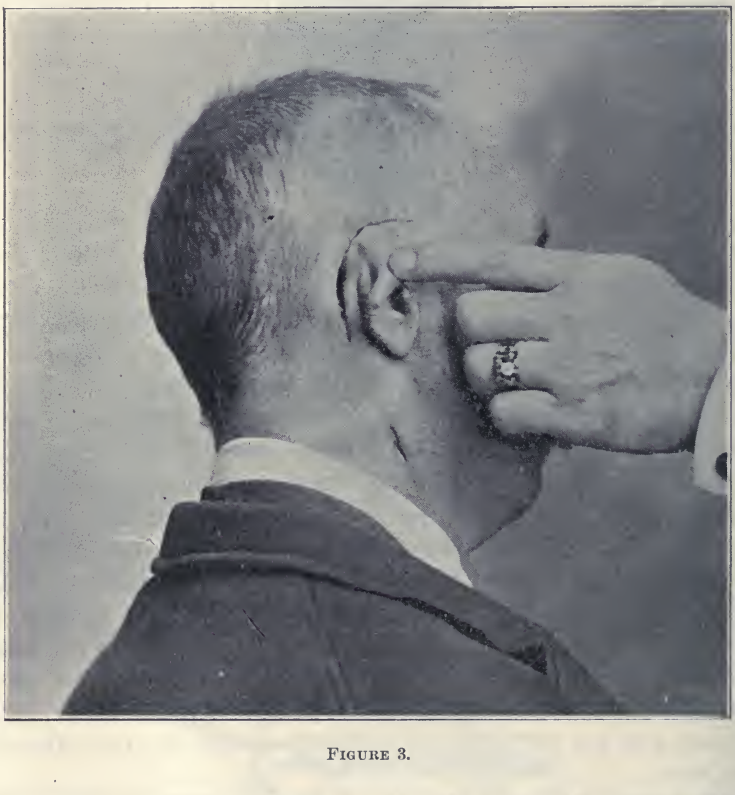

FIGURE 3.

The wound was irrigated with the bichloride solution and insufflated with aristol, and the mastoid wound was treated similarly. The latter was packed very loosely with iodoform gauze, and both were covered with absorbent cotton and the net bandage.

The duration of the operation was 30 minutes. After the mastoid cortex was entered we used what has thus far proved the best artificial illumination for this work: the 60-candle power Welsbach gas burner incased in my light condenser adapted to this purpose. By reflecting this strong light into the wound with the concave perforated forehead mirror over the eye, no light need enter the operator's eye, and there is an unobstructed brilliant illumination of the whole field of operation.

In three weeks the neck abscess has healed, the wound is closed and the mastoid cavity, which was a large one, has about half-filled with healthy cicatrical tissue. It has closed, except a small aperture, which will be kept open for inspection and treatment until the cavity is filled in to a level with the bone; then the skin wound will be allowed to close entirely in a few days.

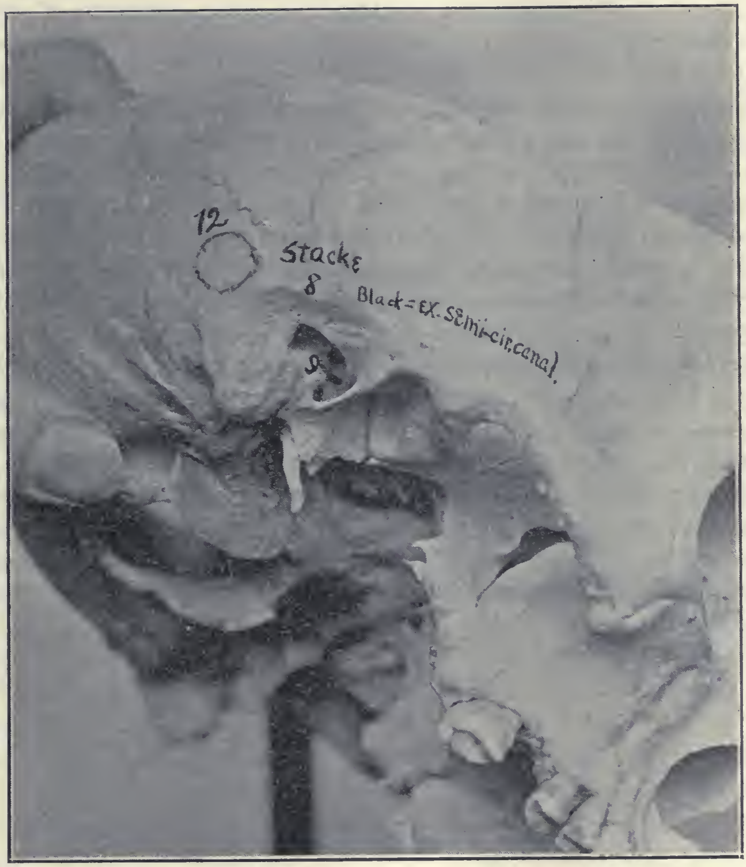

Figure 4.

The patient left the hospital on the 17th day after the operation and has returned to his customary round of duties.

This case is an instructive one. It illustrates the persistent tendency of the drum head to heal after paracentesis, and the necessity of making long incisions, and of frequent inflations to keep them open for the exit of pus. It shows that ice will not always avert or abort mastoid involvement, and that it should be applied the moment a mastoiditis develops. It will not stop the formation of pus when the process is far advanced, although it often aborts mastoiditis in its incipiency. We are likely to be deceived in the patient's condition by the relief from active inflammation and pain that follows the application of cold, unless we rely solely upon our own untiring vigilance. When we see that the progress of the disease is only embarrassed by our efforts, but not interrupted in its onward march, surgical interference, prompt and thorough, is the only anchor of hope for both sufferer and surgeon.

It would be unpardonable not to impress upon you the necessity of conscientious preparation for mastoid operations, for they are difficult, delicate and dangerous except to the most practiced hand and eye. Unless properly performed, these operations may damage the facial nerve, the semi-circular canals, the lateral sinus, the dura mater, the labyrinth, etc., and be followed by deplorable consequences.

Before operating on patients, you should familiarize yourselves with all the relations of the important structures surrounding the middle ear and its accessory cavities. Do not think that your teachers neglect this important preparatory precaution. Musicians afford you a worthy example. Previous to performing in public, they rehearse their parts incessantly. It is vastly more important that we should do the same. During the past month I have performed 17 mastoid operations, but five times only on the living person, and twelve times on cadavers.

Columbus Memorial Building.

CONGENITAL FISTULÆ OF THE AURICLE.

BY DUNBAR ROY, M.D., ATLANTA, GA.

Professor of Ophthalmology and Otology in Southern Medical College.

Numerous cases of the so-called congenital fistulæ of the auricle have been reported, more as an anomaly than from any pathological significance. Dench, in his text-book, says that it is of little practical importance, and occurs as a "consequence of arrest in development in either the formation of the auricle itself, or, as Virchow believes, it may represent an incomplete closure of the first visceral cleft." According to Urbantschitsch, Schwabach and Katz, these fistulæ stand in no relationship whatever to the development of the organ of hearing. Such fistulæ may vary as to their position on the auricle, as is seen from the cases reported; and, in like manner, they may be either unilateral or bilateral. According to most observers they are what might be termed "blind external fistulæ;" although Burnett states that in some cases the fistula may lead into the tympanic cavity. According to Politzer, in all of his cases the fistulæ were unilateral, and they all occurred in the left ear. From my own investigation of the subject, observation seems to teach that the opening of the fistulæ is more common in the region of the tragus than at any other point on the auricle.

The openings may be simply rudimentary, or may be distinctly permeable by means of small probes, and in the same patient, when they exist bilaterally, one side may be permeable while the other not, as in the case reported by Dench. When the openings are freely patulous, an exudation of some character may exude from the fistulous tract, and the patient even be unconscious of its presence, unless the opening becomes closed and fluctuating tumors should result, as in the case reported by Urbantschitsch in his text-book. These fistulous tracts are usually superficial, and vary in length. It seems that most observers have never seen any unpleasant symptoms arise from this condition, but in the case to be reported, one must recognize the fact that a systemic dyscrasia may prove an important factor in the prognosis of the already-existing pathological condition.

J. H., male, aged 7, was referred to me by his family physician with the following history:

Ever since the birth of the child the parents had noticed a small pin-head opening on both ears, just at the upper and basal portion of the tragus. Neither opening had ever discharged until about one year ago, when the opening on the right side began to discharge, and in a short time an abscess began to form in the superficial cellular tissue surrounding the fistulous tract, about 1 cm. in front of the tragus. The patient was taken to a specialist, who simply made a vertical incision over the abscess, evacuating its contents, and packing the same with gauze. The abscess then healed, leaving a long, reddish cicatricial scar, and remained healed for several months.

Gradually pus again began to appear at the little opening on the tragus, and soon a distinct abscess again formed, with fluctuation and tenderness. The abscess could be almost entirely emptied through the little opening, showing the communication of the abscess and the fistulous tract. These abscesses continued to form and be emptied until the child was brought to me with an acute fluctuating abscess already formed under and around the old scar. The fistula was thoroughly probed to see if there was any bony necrosis at the bottom of the whole affair. None whatever was found; nor was there any glandular degeneration.

Having emptied the abscess through the fistulous opening, the cavity was thoroughly injected several times with peroxide of hydrogen. This procedure was repeated every day for a week, without any improvement whatever in the condition of the parts. I then resorted to the following plan: With the aid of my assistant the little fellow was chloroformed, and the whole fistulous tract thoroughly opened up into the abscess cavity. These walls, consisting of old scars and flabby tissue, were thoroughly removed, so as to lay open the whole abscess cavity and fistulous tract. The tissues were now thoroughly curetted, and the whole wound left open to heal by granulation. Aristol powder was used, over which iodoform gauze was thoroughly secured. This dressing was removed every day. The wound began to heal nicely, but the granulations were watery and unhealthy-looking. The whole mass of granulated tissue was now thoroughly cauterized with nitrate of silver (60 grs. to ℥), and over the whole was smeared a 10-per-cent. ointment of icthyol in vaseline.

About this time eczema began to develop behind the auricle, due to the dressings and hot weather. This latter, however, steadily yielded to the icthyol ointment. The granulations and secretion were examined several times for the presence of tubercle bacilli, but with negative results. The whole granulating surface still looking unhealthy, the patient was placed upon arsenauro, 3 drops increased to 5, three times daily. In three days the parts began to look better, the only local treatment being the icthyol ointment; and in one month's time, with the exception of a slight scar, the parts were entirely restored, with no vestige of the fistula remaining. The opening still exists on the other auricle, and whether that will in the future be the seat of a similar trouble remains to be seen.

This case teaches us that it cannot always be definitely stated that such congenital fistulæ produce no inconvenience; for where infection can occur by way of these openings, and there exists some blood or lymphatic dyscrasia, the patient is always in danger of some local pathological change.

Grand Opera House.

CORRESPONDENCE.

NEW YORK, August 13th, 1896.

To the LARYNGOSCOPE:

I shall take the privilege to suggest to my friend Dr. G. Melville Black that he should have investigated the various saws on the market more thoroughly before he expressed an opinion that the "Bosworth blade is the only one worth anything on the market."

The Bosworth saw has its teeth set forward, and cuts on the push. The blade bends, and that makes it hang. It then has to be removed, and a new start made, or you run the risk of doing violence to some part posterior to the end of the saw, or the blade may break.

Having had so much trouble with the above saw, a thought occurred to me that if the teeth were set backward, so that the saw would cut only on the pull, it could not bend while cutting, and consequently would not hang. Several years ago I had a saw made upon this plan. I have never had a saw of that make to hang or stop sawing until the sawing was finished, and the time usually is about one minute. As the weight of the body is not required, as though you were sawing a log or plank, only the fore-arm and wrist movement being used, the saw can be as easily pulled as pushed while cutting. I also had a very narrow blade with a straight handle made, which I call my scroll-saw. This saw is very useful where an adhesion is persistent between the turbinated and septum. A piece of bone or cartilage is scrolled out of the septum, just at the point of adhesion, provided the septum is thick enough not to cut through. When the Bosworth saw is applied to the electric motor the danger of bending, hanging and breaking is increased beyond estimation. I consider the electric motor with the above saw extremely dangerous. The back-tooth saw attached to an electric motor with a steady movement would not bend, hang or break, because there would not be resistance to the inward movement of the saw enough to break it. While I believe the motor with the back-tooth saw is practicable, it is not in any case necessary. I have a motor and trephines which have not been used for about six years, since I devised the back-tooth saw. With this saw less violence or traumatism is done than any other way, and always without accidents, together with the very short time required, which does not give the patient an excuse to lose his courage.

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EDITORIAL.

THE SURVIVAL OF THE "FALLEN PALATE."

The present scientific methods of preparing medicines, and the accuracy with which we are enabled to dispense them, are apt to make us forget that, in the not very distant past, the methods were so indefinite and crude that we wonder at some of the results obtained with—or, perhaps, in spite of—such medication.

The masses still adhere to many of their old methods of "healing," but not to the extent that was formerly the case. We can all remember that not so long ago goose-grease rubbed over the forehead, nose and chest was the *sine qua non* remedy for a "cold," and that its therapeutic value was equalled only by that of French tallow—just exactly why the French preparation was considered to have superior merits in its effect upon the Schneiderian membrane has never been satisfactorily explained.

The older practitioners will recall the fact that "sheep saffron" was considered an effective agent for developing the eruption of the exanthemas, especially in measles, the agent referred to being a decoction of the dung of the sheep. Cow dung was considered a useful, if not savory, poultice, and the human urine was frequently used as a wash in skin diseases. The writer recalls an instance in his hospital experience, in which a negro brought his son, who was suffering from phlyctenular conjunctivitis, for treatment. By questioning, it was elicited that among the various remedies which the parent had tried in this case, was a lotion of his own urine. The frequency of the gonococcal infection of urine would suggest that it would be difficult to find a more dangerous agent to apply to such an absorbing membrane as the conjunctiva.

Mint-tea and catnip-tea, especially the latter, still hold their own among the midwives in all forms of infantile diseases. Rattlesnake oil was extensively used among the negroes for rubbing rheumatic joints, and this was not the only virtue attributed to this ophidian, as its shed skin was supposed to protect its wearer from all the machinations of the evil one.

Many will be pleased to learn that the obnoxious and, in many parts of the South, ubiquitous roach is not without its medicinal qualities. Olive oil, saturated with roaches, is considered in some sections as a valuable remedy for earache, and the blood obtained from a certain beetle by taking off its head, being also supposed to have valuable properties in this direction. Whisky saturated with roaches was considered invaluable in tetanus, and the medicinal value of this remedy could be increased by applying the mashed insects to the injured spot.

It must not be forgotten, on the other hand, that some of our most valued remedies were used empirically by ignorant natives. We are all familiar with the history of the introduction of the cinchona barks into medicine. It is interesting to note that the viburnum, which is now used so extensively in uterine affections, was used nearly a century ago by the negroes of the South under the name of "black haw" for arresting uterine hemorrhages and for correcting menstrual disorders.

The Creoles of Louisiana have used for many years the inner lining of the gizzard of the chicken for digestive ailments, and this preparation has recently gained considerable popularity under the name of "ingluvin."

While many of the self-limited diseases were treated with the most heoric methods, a number of pathological conditions which deserved the most careful attention were absolutely neglected. To this category belongs the "running ear." The suppuration from this organ was supposed to be the elimination of "bad humor" from the system, and should therefore not be interfered with, and many of our most intractable cases of deafness and most serious mastoid complications owe their origin to this pernicious theory, which was countenanced, if not supported, by many of the physicians of the period.

Green oil appears to be considered a panacea in certain sections for all forms of ear diseases, whether for a boil of the external canal or mastoid disease. Very few patients visiting the clinics of New Orleans, who apply for ear treatment, have escaped a more or less prolonged trial of this agent. Even patients in the higher order of life frequently state that this preparation has been prescribed for them by their family physician. In a recent case in which this was prescribed, the patient was suffering from acute salpingitis.

A malady which seems to have survived the encroachment of civilization and to have clung to the lower classes, is the "fallen palate." In the hospitals of New Orleans, if a patient has any form of throat disease, whether a specific ulceration, a simple tonsilitis or a fatal epithelioma, all that ails him is that his "palate is down," and the patient firmly believes that if you can simply "put it up" his health will be immediately restored.

The treatment of this affection is also interesting. One method is to place pepper and salt into a spoon, and with this "push the palate up," and the patient is much disappointed if the palate does not remain in this corrected position. A more efficacious method, however, is to pull the hair at the crown of the head in order to pull up the palate, and if it does not remain "up" the next proceeding is to tie the hair after the palate has been pulled up. Whenever an old negro enters a southern hospital with a cylindrical bunch of wool projecting like a monolith above his head, it is a pathognomic symptom that his "palate is down."

While many readers will say that the most of these methods are but harmless, still practical experience shows the fallacy of this argument. I have seen cases in which the whole soft palate has been destroyed by a specific process, leaving the patient for life with defective vocal and eating organs, when the disease could have been promptly arrested had the patient not wasted valuable time in treating his "fallen palate." Green oil may be an innocent agent, but when its use consumes the important time which allows an acute inflammation of the middle ear to change to a chronic suppurative process which endangers the hearing and even the life of the patient, it can hardly be considered a harmless remedial agent.

Those of our profession whose daily practice in the free clinics and among the poor and destitute of our larger cities brings them in contact with the ignorant masses, should not simply smile at their superstition and ignorance, but should point out to these unfortunates the danger of ignorant and even pernicious medication. In this way only can the light of human intelligence spread among the illiterate masses, and in this way only can we eliminate the evils of such practices.

SCHEPPEGRELL.

GOOD WORK AND THE CROWDED WAITING ROOM.

Many conscientious medical men, in full practice, general or special, are confronted with the difficulty of accomplishing a large amount of daily work, and yet performing it thoroughly and faithfully. There is a natural and individual limit both as to the quantity and quality of work a physician can perform in a day. Either he or his patient, or both, must suffer when this limit is passed—the physician in health and capacity for clear thinking and decisive action; the patient in proper care and attention. Particularly is this applicable to an extensive office practice. Competition may be keen, and the wearied doctor, as he admits the next patient to the consulting room, and finds he is confronted with the necessity of taking a patient's history and making an exhaustive examination, may be tempted to slight his work. Could he look forward, in each case, to an adequate compensation for his labor, he could better bear the burden of toil; but the average American citizen has been educated from childhood in the idea that "the doctor can wait," and that he holds a sort of mortgage on his services. Furthermore, the lack of professional *esprit de corps*, in many communities, is continually depreciating the public sense of what a doctor's services are worth, and he who does careful thorough work is allowing his fees to those well able to pay to drop to the level of his careless or incompetent *confrére.*

There is always and everywhere a demand for good work, and they who can and do perform it should see to it that they husband their strength and methodize their labor, but above all that they maintain the high standard of faithful, thorough, conscientious work.

EATON.

SELECTIONS
FROM CURRENT MEDICAL PUBLICATIONS.

RHINOLOGICAL.

The Influence of Diseases of the Nose and Accessory Cavities on the General Health.

Dr. E. J. Moure (*New Orleans Med. and Surg. Journal*, July, 1896) states that there are two conditions which may have a considerable effect on the general health of the affected subject; these are hypertrophic rhinitis and fetid atrophic coryza. When the hypertrophy is sufficiently well marked, so as to render nasal respiration difficult or perhaps impossible, the patient finds himself exposed to all kinds of bronchial and pulmonary complications.

In regard to fetid atrophic coryza, all practitioners are familiar with the poor and depressed appearance of ozenic patients, which may be explained either by the vitiated air which these patients breathe, or by the fact that they frequently swallow the septic products. There is another complication, however, which is not so well recognized, but which Dr. Moure has frequently met with in this category of diseases. It is the facility with which these patients may become tuberculous. In his opinion, the enlargement of the nasal cavities, and especially the cutanization of the mucous membrane, renders the penetration of the tubercle bacillus more easy into the respiratory passages; especially since, in most cases of ozena, the larynx and trachea are also affected with the morbid process. There seems to be a connection of cause and effect between these two affections, to which it would be well to call the attention of observers.

In diseases of the accessory sinuses, we frequently have gastric and gastro-intestinal disturbances, which may be explained by the constant falling of pus into the throat, whence it is swallowed unconsciously, and this incessant absorption of pus by the digestive passages is not long in creating morbid conditions.

Sinusitis, with abundant and fetid suppuration, constitutes a latent morbid condition, which may take on a dangerous development with the least instigation, and under an influence very trivial in appearance. In these cases there is a centre of microbian culture, which may at any time inoculate itself at some special point, and afterwards develop with great rapidity; especially as the soil is usually well prepared for this culture on account of the former absorption of toxic products, which the system does not always completely eliminate. The suppuration of the maxillary sinus, on account of its abundant and often fetid secretion, appears to affect the general condition most often and easily. W. S.

Rheumatic Complications of the Nose, Throat, Ear and Eye.

Though the special organs may become the seat of the disease, general rheumatic symptoms may often be entirely absent (Dr. Wm. Cheatham, *Denver Medical Times*, July, 1896). Tonsilitis is nearly always of a rheumatic origin. The larynx may also become involved in the process. Extension from the pharyngeal tissues may reach the ear. Any part of this organ may be attacked. A distinctive feature in diagnosis is the great difference between the slight objective symptoms and the marked subjective signs. Anti-rheumatic medication, with exclusion of other inflammatory affections, readily establishes the diagnosis. M. D. L.

Diseases of the Accessory and Nasal Cavities.

Dr. J. H. Stucky, (*American Practitioner and News*, June 27, 1896) states that in the management of empyema, or any obstructive disease of the accessory nasal cavities, the first and most important step is making a correct diagnosis. His experience with such cases has led him to the following conclusions:

1. Remove all intra-nasal obstructions before operating upon the sinuses, unless it be in acute suppurative cases. 2. Resection of turbinates is better than the use of the cautery, caustics or scarifications. 3. Establish and maintain free and thorough drainage. 4. Gauze drains are better than metal or rubber tubes. 5. Equal parts of neutral saline and saturated boric acid solutions, with 40 grains of carbolic acid to the pint, make the best solution for patients to use for daily washings.

[In regard to the first observation, to remove all nasal obstructions before operating upon the sinuses, the attention of the profession has been repeatedly called to the danger of intra-nasal operations when the site of the operation may be infected by septic discharges from the accessory sinuses, Dr. R. Raysor having recently reported a fatal case (*Monatschrift f. Ohrenheilkunde*). The importance of keeping the nose in an aseptic condition under such circumstances is apparent, and as this is impossible while the focus of infection is at hand, the preliminary drainage and disinfection of the diseased accessory cavity is a logical surgical procedure.] W. S.

The Pathology and Treatment of Deviations and Spurs of the Nasal Septum in Young Children.

Dr. E. J. Moure (Paris) states that while the affirmation of Zuckerkandl is true that the nasal septum does not commence to deviate until the age of seven years—that is at the time of the evolution of dentition—still we frequently find deformities of the septum before this age, these cases being due to traumatism (*New Orleans Med. & Surg. Journal*, July, 1896).

In regard to treatment, Dr. Moure warns against operative procedures for correcting deformities of the septum in children below the age of seven or even ten years. At the time of the evolution of the second dentition, the framework of the nose commences to undergo an important change; and to attack surgically the principal support of the nose is likely to expose the patient to subsequent deformities which it may be difficult to remedy. He advocates the use of dilators, straighteners and other instruments of this kind in these cases.

W. S.

Foreign Bodies in the Nose.

Dr. Wm. Milligan reports three illustrative cases (*Clinical Chronicle*, June, 1896).

Case one: a four-year-old boy had suffered from an offensive purulent discharge from the right nostril for six months. There had been several severe nasal hemorrhages. Upon examination, a foreign body was found in the right nostril, and proved to be a shoe-button, which was removed under chloroform with forceps. In the second case, the foreign body, also a shoe-button, was found situated high up in the right nostril. It was readily grasped and extracted. In the third case, the patient had suffered from a discharge of the right nostril for several years. He had also suffered from enlarged tonsils and middle-ear disease. An irregularly-shaped body was seen blocking up the right nostril. This was removed by means of a stout bent hook, and proved to be a rhinolith. W. S.

Nasal Tuberculoma.

Symptoms of nasal obstruction with epistaxis were present in the right nostril for six months, and subsequent hemorrhage from the left nostril in a male patient, forty-nine years old (Dr. Polyak, *The American Journal of Medical Science*, August, 1896). The right nostril was filled by an irregular tumor resembling granulations, which bled readily. On the left side of the septum, anteriorly, was a tissue partly covered with dried crusts of a dull white color, which also bled easily. The tumor on the right side was removed with the hot snare, and its base was found to occupy a point corresponding with the lesion on the left side. The neoplasm contained many tubercles and very few bacilli. No other tuberculosis of the body was found. Further history is wanting. M. D. L.

The Tonsillar Cough.

This symptom is explained by Dr. Furet (*Medical Record*, July 25, 1896) by the complex innervation of the gland. The tonsilar plexus, so-named by Andersch, is formed by the blending of the glosso-pharyngeal, the lingual, the spinal, and the vagus nerves. The pillars of the fauces which surround the tonsil are distinctly connected with the muscular tissues of the larynx. This cough is violent, spasmodic, and frequently very painful. No expectoration follows or accompanies it. This is a diagnostic factor. M. D. L.

Congenital Stenosis of the Nasal Fossæ and of the Naso-Pharynx Simulating the Symptoms of Adenoids.

M. Escat (*The Journal of Laryngology*, July, 1896) relates three cases—the first a man of twenty-two years, the second a child of six, the third a man of fifty-six—all presenting in a marked degree the symptoms and signs of adenoid vegetations. There were no adenoids present, but atresia of the nasal fossæ and naso-pharynx. One finds such patients micro-cephalic, or, more frequently, dolicho-cephalic. Hearing is not so much affected as in cases of adenoids, the deafness being probably central. Mental debility, rather than aprosexia, is present. These cases show that a diagnosis of adenoids must not be made from symptoms alone, but only after careful post-rhinoscopic examination. W. S.

Vertigo of Naso-Pharyngeal Origin.

Dr. W. Scheppegrell, in *The Medical News*, May 23, 1896, reports a case of a 24 year-old man, who suffered from well-defined attacks of vertigo, the condition being brought about whenever the patient attempted to clear his naso-pharynx. On two occasions the patient fell completely unconscious during these paroxysms. The naso-pharyngeal catarrh being corrected, by the removal of a large septal ridge and local treatment, the vertigo disappeared, no recurrence having taken place for eight months.

Descending Optic Neuritis Following Nasal Treatment.

This complication is said to have followed local treatment in a man 38 years old (Dr. A. Alt, *Universal Medical Journal*, July, 1896). The galvano-cautery had been applied for a hypertrophic condition of the mucus membrane. The patient noticed that he could not see as well as usual with the eye upon the same side the cauterization was performed. In ten days the eye became blind.

On examination, there was doubtful perception of light; the pupil was dilated and scarcely reacted. The margins of the optic papilla were almost invisible; the retinal veins were hyperæmic and the arteries thin. Tension was normal.

The nasal treatment was stopped, and injections of strychnine were given. Vision was again restored. A history of syphilis was also present. M. D. L.

Hereditary Syphilis Simulating Adenoid Vegetations.

M. Garel (*Journal of Laryngology*, July, 1896) reports two cases. The first case had been operated on by a colleague, and eight days later perforation of the palate was found.

The second case was a young girl, with the typical fauces of adenoids. M. Garel refused to operate on account of a serious cardiac lesion. Two months later breaking down of a gumma caused perforation of the palate.

Both these cases rapidly recovered under potassium iodide.

The speaker insisted on the importance of careful diagnosis in such cases, in order to save the patient an operation which, if not dangerous, was at least useless. W. S.

Empyema of the Frontal Sinus.

Dr. C. P. Ambler reports in the *New York State Medical Reporter*, May, 1896, two cases of empyema of the frontal sinus. In the first case, both the maxillary and the frontal sinuses were involved. The antrum was opened and curetted in the usual manner, and the frontal sinus was opened externally by means of a small dental burr, operated by an electric motor. A place, a quarter of an inch in diameter, was outlined on the external plate of the sinus, and holes drilled successively in the outlined circle, and the plate could then be easily removed. The sinus being found full of pus, it was irrigated with hydrogen peroxide, and drainage maintained with fine tents of gauze, and after a month's treatment the wound was allowed to close, and there has since been no pain nor discharge.

In the second case, an old lady of 66 years had a fistulous opening under the left eyebrow, and the whole orbital region was greatly swollen and painful. The greater part of the orbital plate had been ulcerated away, but it was not thought that there was other than superficial necrosis. Operation was not done, as the lady was old, had a very irregular heart, and was greatly reduced. A month later she died of pneumonia.

At the autopsy it was found that the two bony plates of the skull were anteriorly separated by a cavity, extending into both frontal sinuses, and for an inch and a half toward the vertex, the whole frontal region being encroached upon by the pus, and the diplœa having undergone extensive necrosis. Pus was also found in the ethmoid and sphenoid cells, and in the region of the cribriform plate of the ethmoid. Upon opening the thorax, it was found that the patient had undoubtedly died of pneumonia. W. S.

The Treatment of Adenoid Vegetations.

M. Helme (*The Journal of Laryngology*, July, 1896) states that, in spite of all that has been done since the time of Meyer, the only effective treatment of adenoids is the surgical.

Contra-indications are very few, viz., hemophilia, anomalies in the pharyngeal arteries. The coincidence of an acute tonsilitis, or of scarlatina, measles, etc., necessitates the postponement of the operation.

Properly speaking, there is no recurrence of adenoids. Apparent recurrence is generally due to incomplete operation; true recurrence may occur in syphilitic, tubercular or malignant tumors. As a rule, improvement is immediate and marked, but in strumous cases it may be less so. In these, one should carry out local treatment, consisting of painting the naso-pharynx with resorcin and glycerine; also general treatment (thermal, sea-air, etc.).

Amongst the results of adenoids the worst are deformities of the thorax and vertebral column. Redard obtained good results in such cases by treating them with a sort of respiratory gymnastics, consisting in expanding as much as possible the affected parts, while the normal parts are held fixed. To overcome defects of speech, rational and methodical respiratory movements, voice culture, singing, declamation, etc., are to be used.

Lastly there are the tubercular adenoids. Of these there are two types: (1) bacillary adenoids (Lermoyez), *i. e.*, where the bacilli are found inside the tissues—very rare, only one to seventy-five cases; (2) bacilliferous adenoids, *i. e.*, where the bacilli are found on the surface of the growths (Dieulafoy)—one to five cases.

Although these growths tend to shrink with advancing years, they must not be left untreated; for while disappearing themselves, they leave indelible traces behind. W. S.

Sozoiodole in Nasal and Naso-Pharyngeal Affections.

This remedy is said to be of considerable value in diseases affecting these parts (Steter, *Am. Med. and Surg. Bull.*, June, 1896). It is employed as the sozoiodole-zinc, and sozoiodole-potassium. In hypertrophic rhinitis the zinc combination with talcum (10 per cent) is said to effect a cure in almost every case. In short time the congested and swollen mucous membrane was much reduced and assumed a healthy color.

In acute coryza insufflations, the potassium preparation in combination with talcum (1-10) applied every two hours checks the secretions. It beneficially influences the fetor of ozena, and acts agreeably in chronic naso-pharyngeal catarrhs, and in acute and chronic laryngitis. In the latter affections a solution of the zinc combination (two per cent.) is employed. M. D. L.

Treatment of Antrum Disease.

Dr. John E. Bacon describes his method of operation (*The American Therapist*, *The Journal of the American Medical Association*, July, 1896.)

It consists in cleansing and medicating the cavity, through a small puncture in its inner wall in the inferior meatus of the nose, which can be made without general anesthesia and without pain. The instruments are a steel trocar and canula, two silver tubes, a silver wash tube, and a hard rubber syringe, with rubber tube connections, made to fit the canula and wash tubes.

Cleanse the nares with the antiseptic spray, cocainize the inferior turbinal and floor on the side to be operated upon, insert a rubber operating speculum well into the nostril, and place the trocar beneath the inferior turbinal, about one and one-fourth inches from the skin margin; by bending the septum to the opposite side, the point of the trocar will point obliquely into the cavity of the antrum. A slight tap with a leaden or rawhide mallet will cause the trocar to penetrate the thin bone which constitutes the inner wall of the cavity. Care must be taken not to penetrate too deeply and so wound the opposite side of the antrum, as serious hemorrhage might result. In most cases the trocar can be pushed through the thin bony wall with fingers alone, and this should be done when possible, to avoid the mental shock which the blow with the mallet sometimes gives. The trocar may now be withdrawn, leaving the canula in place, and the rubber tube may be attached to the canula, and the cavity syringed out with warm sterilized normal salt solution. The fluid will escape into the nose through the ostium maxillare, and bring with it pus if any be present. After the cleansing the trocar may be replaced and the nut removed, when the canula may be withdrawn over the trocar; now a silver tube is slipped over the trocar and the latter is withdrawn, leaving the silver tube in place, and this may remain as long as required without any irritation. This tube is exactly fitted by the silver wash tube, and the cleansing may be repeated without inconvenience. A solution of menthol and camphor in liquid albolene may be easily sprayed through the tube, and aristol or other non-irritant powder may be blown into the antrum by the same means. It is imperative to thoroughly sterilize all instruments used, and to use only warm sterilized fluid in each case, to prevent infection. W. S.

The Correction of Saddle-Nose by the Formation of a Bridge from the Chondro-Osseous Lateral Wall of the Nose.

Professor Czerny (Heidelberg) states that in two cases of saddle-nose of a mild degree, he split the skin down the middle line from the glabella nearly to the tip of the nose, and turned the flaps to either side (*Verhandlungen der deutschen Gessellschaft für Chirurgie*, xxiv. Kongress, 1895; *Annals of Surgery*, July, 1896). Then a half elliptical flap was formed on either side of the roof of the nose, involving the entire thickness and including the triangular cartilage and the nasal bone, the base of each flap lying in the middle line of the nose. The cartilaginous portion is cut through with a strong knife and the bony portion of the lateral wall is divided with a fine chisel, and the two flaps, which are covered on one side with mucous membrane and on the other with periosteum, are turned up towards the median line so that their periosteal surfaces come together.

The nourishment of these flaps takes place through the septum, and their free borders are united by a running suture of catgut. The turning up of the two flaps is not easily done, and the operation can be facilitated by the use of T-shaped forceps. The skin is then sutured over this elevated septum nasi by a running suture of silk thread; the base of the flap was divided. During the last two nights of the strained position morphine injections were necessary, because of the pain due to the position. The flap healed completely without any necrosis. The formation of a septum and nasal orifices was in time accomplished. For a long time the new portion of the nose was sharply defined from the nasal stump by the very anæmic appearance of the former. This peculiarity gradually became less marked.

The results in these cases were good, and the scars scarcely perceptible.

The method is applicable only to saddle-nose of a mild grade, and without marked retraction of the tip of the nose. The bony and cartilaginous wall must be intact, and the septum unperforated, because it must support and nourish the new flaps. W. S.

Chancres found in Unusual Locations.

Dr. E. Harrison Griffin (*N. Y. Med. Journal*, May 23, 1896) writes: During a period of three and a half years I have been able to collect twenty additional cases to those previously reported. He states that such manifestations are not at all rare, but in many instances the initial lesion is frequently overlooked. The chancre itself gives very little pain, even if it is situated on the tonsil or tongue. It is the bubo that brings the patient to the physician. Infection of the neighboring lymphatics brings discomfort and causes the individual to seek relief. Generally it is the mucous patch which spreads the disease, though the author mentions a case of three children who were directly inoculated from the chancre virus. Here the first child took the disease by drinking from a tin pail that had some syphilitic poison on its edges. His brother was infected (chancre of the tonsil) "by sucking a stick of candy after his diseased brother had bitten it." The sister received the initial lesion on the lip by kissing.

He further mentions a number of cases of chancre of the lip, the result of kissing, and using infected articles, and also records two cases of chancre of the tonsil in young women, the result of having had intercourse in an unnatural manner. In another patient, a married woman, twenty-nine years of age, the chancre was found at the base of the tongue—an unusual site. The inoculation had evidently taken place through a break in the continuity of the lingual tissues, but the mode of infection was not clear.

Another case observed was that of a nursing woman, who was inoculated by suckling a strange infant suffering from hereditary syphilis. Two cases of chancre of the anus are detailed. In both instances, buboes of the inguinal region were present. Both patients were children. The one was a female, two years old, who was infected by soiled clothes which had been worn by the grandfather, seventy years of age, who was suffering from a primary sore on the penis. The clothes were employed to cleanse the child. In the other case, sodomy was practiced on an Italian boy, aged ten years.

The paper is one of great practical importance, and the author makes an earnest and worthy plea for a radical measure which will limit the spread of this devastating disease. M. D. L.

Adenoids and Aphasia.

Dr. John A. Thompson (*Cincinnati Lancet-Clinic*, July 11, 1896) reports a case of a 13-year-old boy suffering from headaches and aphasia of several weeks' duration, both of which symptoms disappeared after the removal of the hypertrophied faucial and pharyngeal tonsils.

The author believes that the symptoms were due to ataxic aphasia, caused by the intense cerebral congestion set up by the adenoids.

W. S.

Epileptiform Crises and Hypertrophy of the Tonsils.

M. M. Boulay (*The Journal of Laryngology*, July, 1896), states that among the numerous nervous affections, local or remote (cough, glottic spasm, headache, etc.), which may accompany the various lesions of the nose and pharynx, particularly hypertrophy of the pharyngeal tonsil, the rarest are the convulsive phenomena. The following case is a typical example of epileptiform crises accompanying large tonsils. The patient was a boy, twelve years old, who had suffered for two years from nocturnal crises, with the following characteristics: sudden awakening with anxiety, tingling of tongue, loss of consciousness, and convulsions of tongue, lips, face, and often of the four limbs, with embarrassed respiration and threatened asphyxia, the whole attack lasting five to ten minutes. The child had immense tonsils and adenoids. From the day on which the tonsils were removed the attacks ceased and never returned; the adenoids were removed later. W. S.

Position of Child Patient in Removing Adenoids of Naso-Pharynx.

Dr. S. G. Dabney, in *Pediatrics*, says the child should be seated on the lap of an assistant, with its arms held down by pinning a towel around the body; its legs are held between the assistant's knees, and a second assistant, standing back of both the child and the first assistant, steadies the patient's head. The palate is now brought forward by the retractor, which is held with the left hand; the larger portion of the adenoids is cut off with the forceps, and then with the curette the naso-pharynx is thoroughly scraped to remove all remaining portions of the growth.

Etiology of Nasal Obstruction.

Mayo Collier (*Jour. Laryngol.*): From examination of a large number of skulls and the compilation of statistics, the author concludes that obstruction is seldom or never congenital, rare below ten years, and more common after puberty; that nine out of every ten civilized persons have some irregularity or abnormality in the nose, and that four out of every five savages, aborigines, or uncivilized beings have normal nasal cavities.

We must admit, in the development of the condition called chronic nasal obstruction, an intermediate stage—that of temporary obstruction, which may come from colds or injuries, and which results directly from the abeyance of the power of the dilatores nasi to keep the valve (*i. e.*, the flexible cartilages at the ostum nasi) open on one side or both. If one nostril is blocked—by paralysis or paresis of the nasæ-dilator muscles, injuries, inflammation of cartilages, enlarged inferior turbinated bone, polypi, catarrh, etc.—the result varies ac-according as the patient is awake or asleep. If awake he can co-ordinate so far that by depressing the tongue in the floor of the mouth, and raising the soft palate, air can enter and equilibrate that in the lungs during inspiration, but not that in the closed nasal fossa. The rush of air passing under the naso-pharynx, and to some extent through the naso-pharynx and through the open or partially open nasal cavity, will lessen the tension of and exhaust the air in the closed nasal cavity. This is but the physical principle of an ordinary nasal spray.

Hence, regarding the nares as boxes with sides (one of which, the septum, is more or less flexible), if one nostril be blocked up the air therein is rarefied by the inspiratory act, and the sides of the box are subjected to an increased pressure exactly in proportion to the amount of rarefaction. The average area of the septum can be taken as nine square inches, and from experiments with mercury manometer-tubes it can be shown that a force of four and one-half pounds may be exerting itself at every inspiration, not only on the thin septum, but on every side of the nasal fossa. On the face—hence the pinched and approximated upper maxillary bones in cases of long-standing nasal obstruction; on the palate—hence the high-arched palate and irregular dental arch with crowded teeth; on the soft palate—hence the lessened pharyngeal and post-nasal space and the tendency to breathe entirely through the mouth, and many other attendant consequences.

During sleep more damage is done than during consciousness. Oral respiration is effected by powerful inspiratory efforts, lifting the soft palate every time, so increasing the rapidity of the naso-pharynx by diminishing the width of the stream and consequently increasing the exhaustion of the closed nasal cavity.

There are, of course, other causes which come into play. An enumeration of them would include heredity, syphilis, rickets, habitually blowing the nose with the same hand, habitually sleeping on one side, tendency to vertical overgrowth of the septum, faults of primary laws of organization, action of astringents, habit of putting the finger in the nose, overgrowth of component parts of the septum, traumatism (given first place by the author as a potent cause in young people, next to catarrh and engorgement of the erectile tissues), injuries to root or branches of the facial nerve going to the dilating muscles, and finally, tumors, polyps, hypertrophies, abscesses, and foreign bodies.

Temporary nasal obstruction, then, lasting for any considerable time, tends to produce, and does produce, collapse of the walls of the closed nasal cavities, and so chronic or permanent nasal obstruction.—(*Am. M.-S. Bulletin.*)

The Nose and Nausea.

Dr. C. W. Ingraham (*Am. M.-S. Bulletin*) claims that the application of a 2 per cent. solution of cocaine to the mucous membrane of the nose will almost instantly, in the majority of cases, relieve nausea. The reasons why are worked out from a physiological basis.

Use of Anæsthetics in Adenoid Operations.

Dr. T. Melville Hardie (*Annals Ophth. and Otol.*) in the course of an article on adenoid vegetation says:

"As reasons for using anæsthetics may be mentioned, (1) the fact that the operation is usually a painful one, frequently a very painful one. (2) A thorough operation, which is by most men considered necessary, cannot, as a rule, be performed without general anæsthesia, except in adults. (3) A burned child dreads the fire, and a child who has had curette or forceps used once will ever after retain a decided objection to a second introduction of the instrument. Children, like elephants, have long memories for injuries.

"You will conclude, I hope, that in the absence of disease of heart or lungs, and where the growth is not limited to one central mass merely, and where the child is old enough to know it is being hurt and to remember it, anæsthesia should be induced."

Adenoid Vegetation.

Dr. T. Melville Hardie (*Annals of Ophth. and Otol.*) concludes an able article on adenoid vegetation :

"1. Adenoid vegetation should be removed under general anæsthesia in the great majority of young children.

"2. The cold snare and cocaine anæsthesia are satisfactory in older children and adults, but cocaine should not be used in young children.

"3. Vitrous oxide anæsthesia is frequently of too brief duration for the proper performance of this operation.

"4. Ethyl bromide, apart from the question of its safeness, which is still undecided, is a desirable anæsthetic in many cases.

"5. Ethyl bromide is not well taken as a rule by very nervous or frightened children.

"6. Ether should be substituted for bromide of ethyl where the operation is likely to be a lengthy one.

"7. The Gottstein curette is, all things considered, the most satisfactory single instrument, and particularly in bromide of ethyl operations."

LARYNGOLOGICAL.

Malignant Diseases of the Larynx.

Felix Semon (*Clinical Journal, Journal of Larnygology*, July, 1896) states that the etiology of cancer of the larynx is involved in the same uncertainty as that of malignant disease elsewhere. It is always primary, never secondary or metatastic, or attacks the larynx by contiguity only. The reason of this is, the lymphatics of the larynx do not freely anastomose with those of their neighborhood. Sarcoma of the larynx is very rare; and of carcinomata, epithelioma is by far the most common. The male sex is infinitely more liable than the female for some unknown reason. Smoking and professional voice-use do not account for the difference. Enormous majority of cases occur between forty and seventy years of age, the extremes in Dr. Semon's experience being twenty-six and eighty-three years of age.

In intrinsic disease the cords are most frequently first affected, and the one invariable symptom present is hoarseness. This may last for months, or even a year or more, without a single other symptom intervening. Pain does not depend on the disease *per se*, but on the implication of the sensory nerves, and may never occur up to the time of death. Slight and repeated hemorrhage is very characteristic, but often there is none. Malignant disease may commence locally as a simple congestion, followed by tumefaction, or may assume at once the form of diffuse tumefaction in any part of the larynx. It may begin as a globular, sessile, nodulated mass, or present the characters of a simple papilloma or fibroma. To distinguish simple from malignant growths, remember the tendency of benign growths to localize themselves in the anterior parts of the cords; while malignant growths appear on the posterior parts, or on the inter-arytenoid fold, the epiglottis, or aryteno-epiglottidean fold. Again, in simple papilloma the apices are more or less rounded; while in malignant disease the individual projections of the growths are very much pointed, and the growth is much whiter in color. Impaired mobility of the cord need not always be present in cancer, for the disease may be of a superficial character at first. The average duration of life in cancer of the larynx is between two and three years. The cases most favorable for operation are those in which there is a definite tumor of one cord. Thyrotomy, with removal of all the soft parts on the affected side, has yielded in Dr. Semon's hands fifty-eight per cent. of lasting cures. Where the disease is too advanced for thyrotomy, a part or half of the larynx must be extirpated. The cases most suitable for this operation are those in which the disease is situated on the front parts of the larynx. In cases which do not permit of radical operation early tracheotomy is the best palliative. W. S.

Throat Affections in the Eruptive Fevers.

J. Dennis Arnold, in the *Occidental Medical Times*, presents a timely and valuable paper, urging upon the general practitioner to give more weight and attention to the affections of the upper respiratory tract in the eruptive fevers, maintaining that they are "inclined to make light of such local lesions." The conditions of the nose, pharynx and larynx in measles, scarlatina, variola and typhoid fever, and the serious results of these upon the course of the general disease, and the treatment of each, are clearly described; and the author concludes that, "In view, therefore, of the important part played by the throat symptoms during the course of all the febrile exanthemata, it is evident that they should not be neglected as to active topical treatment, when it is probable such measures will be of avail in retarding or altering the disease as manifested upon the mucous surface. Of course the local therapy can in no wise replace a constitutional treatment which, from the nature of these diseases, must be chiefly tonic and supporting." F. B. E.

Intubation.

By pressure with the thumb on the trachea, just below the cricoid cartilage, cough was produced, which forced out a tube that had sunk into the laryngeal cavity (Trupp, *Universal Medical Journal*). More powerful pressure in the same region would probably force the tube out of the mouth. M. D. L.

A Case of Glossitis.

This peculiar form of what might be called transitory glossitis occurred in a commercial traveler, forty-five years of age (Dr. W. Washburn, *Medical Record*, August 1, 1896). He complained of sore-throat and pain down the left side of the neck. The author was hastily summoned to the patient, and found him conscious, but unable to speak. The mouth was forcibly open, but the tongue filled the whole opening, the teeth being embedded in the tongue. Closer examination showed that the left side of the organ was extremely thickened—nearly three inches—and that the right side was very little affected. Under ice applications and liberal incisions into the swollen parts, considerable relief was experienced. The affection then migrated to the other side of the tongue. Similar treatment succeeded in effecting a cure. M. D. L.

Diseases of the Trachea, Bronchi and Lungs, Treated by Intra-Tracheal Injection.

Though this method of local medication is not of recent date, nevertheless it has proven worthy of more extended application. Dr. J. L. Barton, in *Medical Record*, August 1, 1896, claims the following advantages, *i. e.*:

1. The remedy is applied directly to the irritated mucus surfaces.
2. It quickly relieves distressing symptoms.
3. The antiseptic effect of the medicament is very pronounced, as shown by the longer interval between the febrile attacks and by their lessened intensity when they occur.
4. Rapid absorption of the remedy by the mucus membrane of the trachea and bronchial tubes.
5. Avoid disturbing the patient's stomach.
6. Not interfering with any other line of treatment.
7. In conditions of atrophic manifestations, the injections remove the odor of decomposition, and assist materially in stimulating the tissue. The author employs combinations of any one of the petroleum oils with europhen, guaiacol and menthol, in from one per cent. to two and a half per cent, of europhen; two per cent. solution of guaiacol and up to fifteen per cent. solution of menthol.

[For three years or more, I have employed these intra-tracheal injections in similar complaints, especially, however, in pulmonary disease. The initiative solution was one of guaiacol one per cent., menthol four per cent., and olive oil. Two drachms were given daily or every other day until the patient could stand stronger solutions. These were gradually increased until guaiacol or creosote (beechwood) five per cent., menthol twenty-five per cent., were injected. My experience has led me to believe that it is a serviceable method of prompt medication, and I would suggest a more general application of this form of treatment.—Ed., M. D. L.] M. D. L.

The Bracelin Treatment for Diphtheria.

In a letter to the editor of the *Journal of the American Medical Association* (July 4, 1896), Dr. P. M. Bracelin gives a description of the remedy for diphtheria which bears his name.

In January, 1893, he discovered this remedy, which he claims meets all the requirements of the ideal remedy. He has been experimenting with, testing clinically and improving on the original idea, until now he believes it to be as near a specific for diphtheria as it is posible for a remedy to be in any disease. Since that time he has treated a large number of diphtheria cases in all stages of the disease, and has lost only about one per cent.; and he believes that he has verified his theory that if chlorine gas, corrected, should prove to be a safe bactericide for diphtheria, it would also be an effective remedy for all diseases of the respiratory organs of a microbic origin.

The remedy consists essentially of chlorin, deprived of its suffocating, irritating qualities by an emollient corrective. Two liquids are used, No. 1 and No. 2, the second being added to the first in proportion of one to five parts slightly warmed, and the vapor inhaled as directed. Some diseases, such as diphtheria and pneumonia, require its use once every hour, others but four or five times a day. The formulas are as follows:

SOLUTION NO. 1.

Solution zinc chlorid	20 parts.
Solution arsenic chlorid	30 parts.
Hydrochloric acid	1 part.
Water	49 parts.

SOLUTION NO. 2.

Solution chlorinated soda, standardized to 2.6 per cent., available.

Chlorin	70 parts.
Corrective	30 parts.

Note.—The corrective consists of menthol, camphor, eucalyptol and salicylate of menthol, dissolved in alcohol and water (the proportions are not stated). W. S.

Tonsillitis as a Factor in Rheumatic Fever.

Sir Willoughby Wade (*Gaillard's Med. Jour.*, Aug., 1896) presents the details of the recently advanced theory that rheumatic fever is primarily due to tonsillitis. Clinical observers have for some time noticed that rheumatic fever is often preceded by tonsillitis. It was suggested that the poison of rheumatic fever might be fabricated in the mouth and throat, and gaining entrance into the tonsils and into the system, produced first the tonsillitis and then the rheumatic fever. It was observed that the micro-organisms primarily multiply in the lacunæ of the tonsil, and that they or their toxins enter the system through the abundant lymphatics in the neighborhood of the lacunæ. To present the theory concisely, tonsillitis is a primary infective disease of the lacunæ; rheumatic fever, a secondary disease, arising from the absorption of micro-organisms or their products into the system.

That the theory of microbic origin of rheumatic fever is making headway may be seen by reference to Dr. T. J. Maclagan's article on "Rheumatism" in the "Twentieth Century Practice of Medicine," and to the reported discussion on "Rheumatic Fever" at the last annual meeting of the British Medical Association.

In considering the nature of tonsillitis, the Laryngological Section of the British Medical Association summarized as follows:

1. The clinical phenomena correspond in every particular with those of an infective disease.

2. Cases have been noted in which the disease had undoubtedly been transmitted from one person to another.

3. Various species of coccus and bacillus are to be found within the lacunæ, within the closed follicles, are even within the epithelial cells of tonsils removed during the acute stage. Leucocytes in large numbers are found associated with the micro-organisms.

From a throat point of view the natural history of tonsillitis shows that it is divisible into the following classes:

1. Tonsillitis with or without abscess, which is neither preceded, attended nor followed by rheumatism.

2. Cases of repeated tonsillitis without rheumatism, then an attack remotely followed by rheumatism.

3 Cases of first attack immediately followed by rheumatism.

4. Cases of first attack remotely followed by rheumatism.

To all of these subdivisions sufficient clinical data are presented. These clinical facts strengthen the suspicion that there is a special micro-organism capable of affecting the system, first, by the vehement local symptoms characteristic of acute tonsillitis; secondarily, by the promotion of some body-toxine influencing the blood, lymph, or nervous system and known to medical lore as the "rheumatic diathesis."

It is suggested to bacteriologists that separate cultivation under varied conditions of the micro-organisms usually found in acute lacunar tonsillitis, and the physiological testing of their products be made; a microscopical examination of the blood should be undertaken to determine the presence of any morbid elements which might be associated with the rheumatic diathesis.

The Relation of Acute Diseases of the Nose and Throat to Disorders of Digestion.

Dr. Moreau R. Brown (*N. Y. Med. Jour.*, Aug. 29, 1896) writes: "Clinical experience demonstrates that there are certain well-defined relations existing between acute inflammatory conditions of the nose and throat and other disordered organs of the body. The connection between acute inflammation of the upper air-passages and disorders of digestion are often shrouded in mysteries which pathology has, as yet, failed to unfold.

"What bacteriological research has failed to establish is demonstrated clinically—namely, that an acute inflammation of the upper air-passages will create disorders of digestion by direct infection through the mass of muco-purulent secretion, loaded with bacteria, which finds its way into the stomach. But, as to the reverse process, is it probable that the upper air-passages become inoculated directly by the stomach contents?"

In conclusion, B. states that no proof has as yet been presented of the direct causation of acute inflammatory processes in the upper air-passages by stomach disorders; but clinical observation is abundant in favor of such causation and the hope is expressed that bacteriologists will soon be able to supply direct proof.

Chronic Diphtheria.

Dr. E. B. Gleason (*Atlantic Med. Weekly*, Aug. 29, 1896) writes: "It is probable that so-called chronic diphtheria is by no means as rare as stated in text-books written prior to the discovery of the Klebs-Loeffler bacillus, and that many cases of the milder forms of this disease are not recognized as diphtheria by the physician in attendance."

Under certain circumstances, diphtheria may run a mild course without much febrile disturbance or formation of pseudo-membrane. A mild sore throat affecting a physician or nurse in attendance upon a case of diphtheria is not an uncommon source of anxiety and is often of this character.

Usually primary nasal and mild faucial diphtheria yield so readily to efficient treatment, that it is difficult to convince the patient's family that the disease is diphtheria. Rreporting such cases to the board of health and quarantining the premises where such a mild case has occurred is resented as something more than an absurdity and an impertinence, yet the duty of the profession is plain in such cases; for although primary nasal diphtheria and mild faucial diphtheria are probably not as contagious as the malignant form, yet cases have frequently been reported which, after running a mild course for a week or more, have suddenly assumed a malignant form. The finding of the Klebs-Loeffler bacillus upon the mucus-membrane should be followed by active preventive measures.

The Nature of Laryngeal Complications of Typhoid Fever.

In a recent discussion of this subject before the Laryngological Society of London (*Journal of Laryngol.*), Kanthack and Drysdale reported that St. Bartholomew's Hospital post-mortem records showed for a period of four years, sixty-one fatal cases. The larynx had been examined in fifty-three, and ulceration was found in 26 per cent. of the latter number. The loss of substance was generally over the tip and edges of the epiglottis and in the neighborhood of the processus vocalis. In these fourteen (26 per cent.) cases the epiglottis was affected alone four times, the larynx proper seven times, both larynx and epiglottis once; in two cases the soft palate or pharynx was ulcerated as well as the epiglottis.

These lesions are more apt to come on during the later stages of the fever, and the principal interest centers in their pathological nature. Are they specifically typhogenetic? Bacteriological evidence on this point is very incomplete, and such as there is points against a specifically typhogenetic character.

Nor, moreover, is this view supported by clinical evidence. There seems to be no relationship between the symptoms of the fever and the laryngeal lesions. The condition of the mucous membrane of the mouth and pharynx is of importance: in nine out of twelve fully reported cases it was described as dry and brown over the tongue, in four fissured as well, and in one even bleeding. In many, if not most, cases the patient was in the so-called "typhoid state." This condition must act as a predisposing element, especially since it may be assumed that the laryngeal mucosa may be in a similar condition. It is then readily injured and forms a portal of entrance for pyrogenetic cocci, always present in the mouth and pharynx. Naturally this would occur most commonly over and in the most insufficiently vascularized portions—*i. e.*, the tip and edges of the epiglottis and the processus vocalis. This explanation does not, however, satisfy all cases, and difficulties still remain.

Undoubtedly the lesions are microbic in origin, but they arise from pyococci, and but rarely from the typhoid bacilli.

N. Watson Williams was of the opinion that the fever bacillus was a more frequent factor in causation than the preceding authors would admit. Autopsies had shown that in fatal cases a peculiar form of laryngitis was present in which the lesions on the lymphoid follicles were similar to those occurring in Peyer's patches. Moreover, the frequency of laryngeal ulcers in typhoid as distinguished from their rarity in other exanthemata, pneumonia, and acute bronchitis, together with the fact that they were specially prone to occur when lung lesions (probably specific) predominated, was strong *prima facie* evidence of their specific nature.—(*Am. M.-S. Bulletin.*)

Acute Miliary Tuberculosis of the Pharynx and Larynx.

Dr. Gottlieb Kûer, in the *Ugeskrift for Läger*, 1895, reports three cases of primary pharyngeal tuberculosis (miliary). Patients were: female, aet. 8 years; male, aet. 23 years; and male, aet. 55 years. The onset of the disease was rapid, characterized by great difficulty in swallowing, extensive ulceration of the pharyngeal mucous membrane; in the cases cited, the initial tubercular lesions were followed by a rapid extension upward into the naso-pharynx and downwards into the larynx. It is especially emphasized that the esophagus and hard palate were not involved in any of the cases reported. Nourishment was sustained by enema, etc.

Post-mortem examination substantiated the clinical data.

OTOLOGICAL.

Seeing Sounds.

An interesting editorial in the *Maine Journal of Medicine and Science*, May, 1896, reads as follows:

"A few years ago a deaf and dumb man was a visitor in a certain band-room where a number of musicians were assembled. Somebody proposed a test to ascertain if the deaf mute could hear a cornet when sounded close to his ear. The trial was made. At the blast of the trumpet the deaf man started, looked very much surprised, and acted exactly as if he heard the sound. All the musicians were satisfied that he did hear it. They were accordingly very much surprised when they found he had written upon his slate the words "a bright red light." On further inquiry it was learned that when the cornet was played the deaf man did not hear the sound, but a bright red light flashed before his eyes. He saw the sound, but did not hear it. This explanation was a great mystery to everyone present. The matter was long discussed, but no further light was thrown upon the mysterious statement of the deaf man.

But now comes the eminent biologist, Herbert Spencer, and declares that all the five senses are in reality one—and that one, touch. Hearing, seeing, smelling, tasting, are all modifications of touch. The most sensitive touch organ is that possessed by the feline tribe. The vibrissæ or whiskers of the cat are connected at the root with a nerve cell. When the outer end of the hair approaches or comes in contact with any object the impulse runs along the shaft to the nerve cell at the root, and sensation results. Now the eye is simply a highly specialized organ of touch, so adjusted as to be sensitive to the impact of waves of light. In the same way the ear is a highly sensitive organ of touch, taking cognizance of waves of sound. When we come to think of it, we see that all this is within the bounds of common-sense, and we acquiesce without demur with Spencer's theory.

Then follows the celebrated physicist, Dr. Heinrich Hertz, with his declaration that light, electricity and sound are all modes of motion, differing only in the length of the waves, in the way in which they move, and in the manner of their impact.

Again, the highly educated deaf mute, Kruse, affirms that though he is "stock deaf" he has a bodily feeling of music, and different instruments have different effects upon him. Musical tones seem, to his perception, to have much analogy with colors. The sound of the trumpet is yellow to him, that of the drum is red, while the music of the organ is green, and that of the bass-violin blue, and so on.

In confirmation of these statements of Kruse, it should be noted that language shows clearly that men in general have a strong feeling of such analogies among the impressions of the different senses. Expressions such as "schreiend roth" and the use of "loud" as applied to colors and patterns evince a sense of an analogy between sound and color.

In some mysterious way sound waves are perceptible to the organ of sight in certain individuals. Not long since a youth appeared in Zurich, to whose eyes musical sounds presented themselves in shades and tints; high-pitched tones appeared as brilliant colors; low-pitched tones in somber hues. M. Pedrome, of Nantes, tells of a friend who had similar peculiarities, and who claimed that he could see the color of different voices. When his eyes were shut sounds conveyed direct color impressions to his mind. When his eyes were open the sound appeared in its color near to the body itself, as over the keys of a piano, or directly over the head of a vocalist. This man was examined by several specialists, who agreed that the man's chromatic sensitiveness was so sharp that the luminous impression was made before the sonorous one; for they found that before he could judge of the intensity of a sound, he could see its color. This explanation is not very clear, but is perhaps as lucid as some other explanations which have emanated from eminent specialists.

Dr. Nussbaum has, recently, again brought the subject of sound-color to notice. To him each sound has its peculiar color; one corresponding to red, one to yellow, another to blue, to green, etc.

In 1734 Father Castel, a French Jesuit, constructed a "color harpsichord," upon the theory that there are seven primary colors, and that there are seven intervals in a musical octave. His intention was to produce an instrument which would show to ordinary visions these color notes as they are now seen by an exceptional view. This ingenious priest died, however, before perfecting his instrument, and left no detail of its construction.

From the foregoing facts it seems to be well established that color perception accompanies every tone of the scale. When we remember the similarity of the structure of the eye and ear, both being highly specialized organs of touch; and when we also call to mind the connection between sound waves and light waves, we can seem to get a glimpse of the way in which this interchange might come about. Both the eye and the ear are touch organs, affected by the impact of waves; both sound and light are forms of wave motion, which make an impact upon highly sensitized touch organs. It is also worthy of note that the *Daily Press* has just announced that Tesla has come to the conclusion that the so-called X rays correspond much more closely to sound waves than to waves of light.

The latest researches are those of Mr. Rivington, of London, with his new invention which he calls the "color-organ." By means of this instrument, when certain keys are struck the melody is reproduced in a combination of color tones upon a screen at the instant when the tone is heard by the ear. At a recent concert the delicacy of this new instrument was clearly demonstrated. The *Allegretto*, a musical journal, thus describes the effect: "Chopin's Preludes were played, and a screen reflected a bewildering succession of color waves, passing so rapidly that the eye could scarcely detect them all. They ranged through the length of the spectrum, and they flashed out even the half and quarter tones of color in immeasurably lovely combinations, which hitherto the imagination had not conceived. They were the result of a harmony that worked alike for the eye and the ear. Endless combinations of color were produced by principles that govern the diatonic scale and musical octaves. The key-board of this color organ resembles that of a piano, and whenever a note is struck its color appears on the screen. Chords show combinations of tints which are comparable only to harmonic combinations of musical motor, middle "C" corresponding to low red; the other "Cs" show other reds, toning perfectly. This invention of Mr. Rivington is the first completed instrument to show a definite connection between sound and color.

Deaf-Mutes.

Editorial in *Atlanta Med. & Surg. Journal* presents the following:

It is not so well recognized as it ought to be that a large proportion of deaf mutes retain a certain amount of hearing power. We say retain, because the majority of these unfortunates are sufferers from the results of aural disease developed before speech has been thoroughly acquired. It is true that in children of deficient intellect speech may be practically impossible, and that these cases are sometimes hard to separate from true deaf-mutism.

In a minority of cases the defect is congenital, and it seems to run in families, without however being commonly hereditary. Consanguinity in parents has a more decided influence, and syphilis, maternal impressions, alcoholism, bad hygiene, etc., are probably important factors in its production.

In this country and on the continent of Europe intra-cranial disease is probably the most common cause of acquired deaf-mutism, and cerebro-spinal meningitis is specially prominent in statistics. But disease of the external, middle, or inner ear, producing deafness, will also produce mutism when the patient is insufficiently advanced in intellect on account of age or natural deficiency. A child who loses his hearing, or becomes distinctly deaf, before the age of four will almost certainly also lose the power of speech, and between four and seven the progress as regards speech will mainly depend on the child's intellectual activity. Totally deaf mutes are the exception, though authors differ as to the exact percentage. The practical point is whether or not sensibility for sound exists to such a degree as can be utilized in teaching. Thus Love found that such sensibility existed in 25.27 of his cases, and Walker (*Med. Fortnightly*, March 2, 1896, and *Annals of Opthal. Otology*, etc., May, 1896, p. 515,) found that 11 per cent. of the children whom he examined had 30 per cent. and over of hearing. If children could make as much use of their defective ears as adults can these would all have comparatively little trouble, for adults can get along with 7 per cent. of hearing power with artificial aid, but children are unable to put forth the necessary exertion. In New York 5 per cent. are taught through the ear, and in Nebraska an effort is being made to teach 34 per cent.

When speech cannot be taught through the ears, one must fall back, when the child is above seven years old, upon the system of oral instruction and lip-reading, which consists in teaching the pupil to speak by imitation of the movements of the lips and tongue, modulation being secured by allowing him to feel with his fingers the vibrations of the teacher's larynx. For hearing is substituted observation of the speaker's lips.

According to Hartmann, a few pupils learn so successfully that a stranger does not notice any defect; one-third, though their speech is peculiar, can yet converse with anyone; a second third can be understood by acquaintances alone, while the rest turn again to the language of signs.

The Differential Diagnosis of Vascular and Muscular Tinnitus Aurium.

Dr. Thos. F. Rumbold (*St. Louis Med. & Surg. Jour.*, June, 1896) states: If the ear sounds are carefully analyzed, they will be observed to be of two very different varieties. They differ in character, location, etiology, mechanism and in their treatment.

(a) *Vascular Tinnitus Aurium*, caused by an increased blood pressure, and by the flow of blood through the irregular-callibered blood vessel of the internal ear and adjoining structure.

(b) *Muscular Tinnitus Aurium*, produced by some disturbance of the muscles of the middle ear, causing vibrations by alternate contractions and relaxations.

Many patients who experience excessive tinnitus, will hear a conversation in a moving railroad coach better than in a quiet room, showing the influence of extrinsic noise upon the tinnitus. This condition, known as "paracusis," is positive proof of the presence of *muscular tinnitus aurium*. On the other hand, the *vascular* form is not influenced by paracusis; as a rule, it even tends to decrease the hearing.

A patient may suffer with both varieties of tinnitus at the same time.

Rumbold applies the following simple, though efficient test for a differential diagnosis: The trumpet extremity of a Canmann's stethoscope is covered by a thin sheet of india rubber, and by aid of an atomizer bulb or compressed-air cock a small stream of air is directed upon the covered trumpet. This gives rise to quite a loud, but not disagreeable noise. The noise can be varied in intensity at will, by approaching or withdrawing the air tube from the rubber sheet. This noise will, in a case of muscular tinnitus, temporarily arrest the tinnitus. This temporary cessation constitutes the differentiation between this tinnitus and the vascular variety.

It is often of the utmost importance to establish this differentiation, for a treatment that may be of great value to a patient suffering from the muscular variety might be decidedly injurious to one suffering from vascular tinnitus, and *vice versa*.

Contribution to the Pathological Anatomy of the Deaf and Dumb.

E. Schmiegelow (*Ugeskrift for Lager*, 1896) reports the results of a post-mortem of a deaf and dumb woman. Inspection showed well-developed temporal bones, middle ear normal, Eustachian tubes permeable. Both labyrinths, on microscopical examination, presented the same characteristics: the terminations of the auditory nerve in the cochlea were atrophied; every trace of nerve elements from the ganglion spirale to the organ of Corti had disappeared. The lower portion of the scala vestibuli and scala tympani contained a profusion of connective tissue fibres; the membrana Reissnerii had disappeared. The nerve elements and segments in the vestibule and semicircular canal had not been involved. The pathological picture almost corresponds with that described by Scheibe (*Zeitschr. für Ohrenheilk*, 1895, p. 100.) G. K.

Lesions of the Tympanic Membrane.

In recording some of his observations, Professor Politzer (*The Medical Herald*, July, 1896) remarks that lesions of the tympanic membrane are primary and secondary. Primary inflammation is localized in the outer layer. In the course of influenza, hemorrhagic vesicles may appear. In acute otitis media, lesions resembling those of a primary myringitis may occur, though in the former affection the hearing is markedly disturbed. The presence of a serous fluid behind the tympanic membrane is shown by a characteristic line of the drum. The liquid may be removed through the Eustachian tube by insufflation, with the head bent sideways. Diffuse opacities of the membrane, due to calcareous deposits, are at times the result of a catarrh of the middle ear. In sclerosis of the labyrinthine capsule, the promontory is seen through the tympanum, and is of a reddish color. Ferric chloride is recommended as a caustic for granulation tissue.

M. D. L.

Indications for Perforating the Mastoid in Acute and Subacute Middle-Ear Inflammations.

Felix Cohn (*N. Y. Med. Journal*, Aug. 8, 1896), in an excellent, concise article, presents the following summary:

The presence of hyperæmia and congestion alone is no indication for opening the mastoid.

The mastoid should be opened in all cases of diagnosticated osteitis if under the usual antiphlogistic treatment the inflammation shows no tendency to resolution.

In pronounced cases of antral empyema in which the character of the discharge is purulent and the empyema shows no tendency to discharge completely through the middle ear.

In all cases of protracted otitis with profuse otorrhœa which show no tendency to resolve within a reasonable period, the time chosen for operation depending upon the manifest symptoms, whether, for instance, retention is present or the mastoid bone itself is involved.

In every case of acute otitis in which there are dangerous symptoms of resorption, and in which the drainage cannot be established by paracentesis or by natural perforation. In those cases, even without manifest symptoms of mastoid affection, the mastoid should be opened, in order to produce a more favorable drainage and enable a thorough cleansing of the middle ear.

In all cases of muco-purulent otitis in which the otitis is evidently maintained by mastoid involvement, the time for operation depending upon the condition of the patient and the presence or absence of symptoms pointing to retention, or other complications of a serious nature.

In cases of mastoid disease, or otitis complicated by lymphangeitis or lymphadenitis, in which there is an imminent danger of the formation of abscess, and in those cases in which the lymphadenitis does not tend to resolve under ordinary antiphlogistic treatment.

In cases of protracted otitis in which there are symptoms of serious secondary complications, involving danger of extension of the inflammation inward toward the brain, or downward toward the neck.

In cases of acute otitis in which complicating stenosis of the external canal prevents drainage and thorough cleansing of the middle ear.

Chronic Anæmia of the Labyrinth; the Nitrite of Amyl Test.

M. Lermoyez (*The Journal of Laryngology*, July, 1896) states that apparently there are two forms of circulatory disturbance of the labyrinth, viz., hyperæmia and anæmia, having symptoms so much alike that none of the classical signs suffice for a differential diagnosis. But the nitrite of amyl test is decisive.

Let the patient inhale a few minims of nitrite of amyl. If there is congestion of the labyrinth the tinnitus and deafness will increase considerably; if anæmia of the labyrinth, the tinnitus will diminish and the hearing power increase at once, as if air douche had been given. There is no danger in such a use of amyl nitrite. Unpleasant effects, however, are produced by the repeated use of the drug—besides, it very soon loses its efficacy. He therefore prefers tri-nitrine (as used by Huchard in the treatment of angina pectoris), either combined with the treatment of the pathological cause of the anæmia, when that can be discovered, or alone, in the very much larger number of cases in which the cause remains unknown. W. S.

The Treatment of Labyrinthine Vertigo.

At a recent meeting of the Société francaise de laryngologie, otologie et rhinologie, a report of which appears in the *Gaz. heb. de med. et de chir.* for May 21, M. Gellé stated that vertigo which was caused by lesions of the tympanum or of the annexa was very frequent (*N. Y. Med. Journal*). The treatment to be employed should tend to relieve pressure and to free the labyrinth with the use of Politzer's bag, the catheter, rarefaction, etc. If the alterations had become established, then auricular surgery should be resorted to. If there was a hyperemia of the drum of the ear, paracentesis of the tympanum should be done, and this should be followed by baths of warm water prolonged in order to facilitate the flow of blood. Afterward pilocarpine or the iodides should be injected hypodermically. For a gouty patient, tincture of colchicum, colchicine, or sodium salicylate might be used. If there were cardiac troubles or albuminuria, a milk diet and intestinal revulsives rendered great service. If labyrinthine congestion was active, the treatment was the same as that for hemorrhage; if it was passive, and connected with disturbances of the central circulation, the treatment should consist of a milk diet, the use of strophanthus; etc. Cold or steam baths should be avoided; also exciting mineral waters. Bromides and arsenic were indicated; cold douches were applicable only to the passive, neurasthenic forms.

Anemia, said M. Gellé, caused vertigo, and if there was an aural lesion, the effects were more marked on the deaf side. The treatment to be employed, according to the pathogenic indications, consisted of the use of tonics, iron, some of the iodides, kola and caffeine.

Inflammation of the internal ear was frequently very grave and often beyond medical resources. In the beginning, pilocarpine, quinine, and strychnine gave good results. If hereditary syphilis was suspected, a specific treatment might be tried.

Labyrinthine vertigo, said M. Gellé, might very frequently be attributed to a mechanical cause, such as shock, deglutition, centripetal pressure, mastication, congestion, etc. Hyperesthesia of the labyrinth led to a predisposition to this cause, while at the same time a lesion of the organ exposed it to an abnormal concussion. The best medication was with quinine sulphate, of which nine grains might be given during the day, in three doses of three grains each at meal times. After a few days this quantity might be increased to eleven and twelve grains. This treatment could be repeated two or three times at intervals, according to the effect obtained, notwithstanding the buzzing it caused. A general quieting treatment might be employed at the same time. Paracentesis of the tympanum relieved the labyrinth, and in nervous persons cold douches hastened recovery.

Infectious diseases and toxemia were often accompanied by vertigo and deafness, and in this case the treatment varied according to the pathogenic cause. Vertigo was often an early symptom of sclerosis, and it was often mistaken for that due to disturbances of the stomach. It was also frequently caused by uterine, hemorrhoidal, pulmonary and psychical affections. The labyrinth, said M. Gellé, was like a manometer; it expressed the variations of the blood-pressure and of the nervous system under the form of vertigo, buzzing and hallucinations.

Phono-and-Pneumo-Massage in Suppurative Disease of the Ear.

Dr. Louis J. Lautenbach (*Med. and Surg. Reporter*, July, 18, 1896) presents the results of two years experience with this additional feature to the treatment of suppurative otitis. The author urges that oto-massage should be added as a valuable adjunct to our older and well-tried methods of treatment.

The pneumo-massage instrument is used to remove the aural discharges in connection with wet or dry cleaning. Of cleaning the ear, L. writes:

I first treat the ear according to the present methods, and when I consider it fairly clean I use an exhaust apparatus, with a pressure of from two ounces to four pounds per square inch for from three to ten minutes, employing about 300 exhausts per minute. Then, I again thoroughly cleanse the ear with cotton, and if I am at all suspicious of there being more suppuration present, I again apply the exhaust pump. After thus cleansing the ear, I use drying and stimulating preparations in the usual manner. Often in simple cases, after cleansing the ear, I lightly plug with cotton, using no other treatment.

By this massage method, I often succeed in reducing the infiltration and inflammation. Often even in acute suppuration, with severe pain, I employ it, and by its means relieving the pressure of the discharges, cause a rapid disappearance of the pain, the inflammation subsiding, the surrounding swollen tissues soon returning to their normal condition, the discharges ceasing, the ear often quickly resuming its normal functions.

In addition to this, the massage being used daily, formation of lymph bands and other adhesions is avoided; the drum-heads, ossicles and their connections are prevented from becoming fixed and immovable, the hearing being in a great part preserved.

The author concludes:

Pneumo-massage aids in the prevention of the extension of inflammation as well as in the subsidence of the inflammatory action, through the aid it affords by thoroughly cleansing the middle ear of all the discharges, thus relieving the excessive tension, thus preventing infiltration and disintegration of ear structures, with consequent extension to the internal ear or mastoid cells or both.

Pneumo-massage preserves intact the normal sound-conducting structures and restores them when ankylosed or abnormally attached, or when restricted in their movements, to a condition more nearly natural than can be attained by any other method.

Pneumo-massage relieves the increased pressure on the internal ear so often observed as the cause of deafness in these cases.

Phono-massage restores, at least, in part, to the internal ear-structures their normal receptiveness, by occasioning a physiological stimulation of the nerve endings and their connecting parts, which had either from disuse or increased pressure been placed in a dormant or non-responsive condition.

Acute Otitis Media.

Dr. Bulson (*Ft. Wayne Med. Magazine*) says:

"1. Consider 'ear ache' as a warning note of danger to the patient, both as respects function of hearing and life, and carefully inspect the visible parts implicated in the inflammation.

"2. Avoid opiates, which often times but mask the symptoms, and if within the first few hours no relief from pain results from hot applications and local depletion, perform paracentesis whether bulging of the membrane is present or not.

"3. Incise the drum membrane at once if bulging is detected indicating early perforation, as it is important to if possible control the character, extent and location of the opening in the drum membrane in order to limit destructive changes.

"4. With the appearance of discharge, begin the process of cleansing, adopting nothing more than warm detergent and non-irritating antiseptic solutions, and using them sufficiently often to keep the parts free from collections of mucous or pus.

"5. Keep the naso-pharynx free of discharge by detergent sprays, and cautiously use Politzer inflation to assist in removing discharges from the middle ear, as well as to aid in preventing depression of the healing drum membrane and possible adhesion.

"6. To secure the best possible results, which are always desirable, and due both patient and physician, persistently follow treatment until all discharges have ceased and the perforation thoroughly closed."

[After thoroughly cleaning the ear use the dry treatment.—Ed.]

Otitis in Measles.

Bezold claims that otitis is invariably an accompaniment of measles.

Vaselin in Middle Ear Affections.

Delstanche (*Annales des Maladies de l' Oreille, du Larynx*) reports obtaining good results from the intra-tympanic injections of pure liquid vaselin in both acute and chronic middle ear affections. Dr. Thos. F. Rumbold years ago reported good results from an aural spray of vaselin.

The Treatment of Diseases of the Nose and Ear With Oxygen Gas.

Dr. George Stoker (*N. Y. Med. Jour.*, Aug. 29, 1896) presents this therapeutic method in the treatment of ozæna, (*a*) syphilitic, (*b*) chlorotic, and in chronic suppurative diseases of the middle ear.

The method of applying the treatment is as follows :

The oxygen is contained in a wedge-shaped bag made of mackintosh. This bag is placed between two boards (pressure boards), such as are used with the oxyhydrogen light. From this bag a tube leads, which terminates in a nose or ear piece. There are two taps—a large one on the bag, for the purpose of filling it, and a small one to regulate the stream of oxygen during treatment. This bag contains one cubic foot of gas, or of gas and purified air mixed in equal quantities, and this amount should suffice for six hours' treatment. In the great majority of cases I use equal parts of oxygen and purified air. This latter is prepared by being pumped by means of a bellows or hand ball through two wash bottles, the first containing some water and the second Condy's fluid. The bottles are attached to the bag for this purpose, and when the bag is half full it is then detached from the bottles and filled up with oxygen. The bag being filled, we are then ready to begin the treatment. The nose piece is passed into one nostril, the other nostril being plugged with cotton wool ; the patient is directed to breathe through the mouth, the taps are turned on, and the treatment is begun. In ear cases the only difference is that the terminal piece is placed in the external auditory meatus, and in case of either ears or noses it is desirable to have several different-sized terminals to fit different-sized orifices. The oxygen should be allowed to pass into either the nose or ear from three to six hours daily. In nose cases it is best to use it about half an hour to an hour at a time, giving intervals of rest between the times. If used for more than an hour in nose cases it is apt to cause headache. The only additional treatment is using warm water to cleanse the parts during the day ; the necessity for doing so seldom or often will of course depend on the amount of the discharge, but it must not be done less than twice daily.

The author reports a series of clinical cases, in all of which decided, rapid improvement was noted. The application of oxygen gas has also been made in cases of purulent discharge from accessory nasal cavities, *i. e.*, the antrum and the frontal and ethmoidal cells. Thus far the results have been satisfactory, and a report is promised at an early date.

NEW INSTRUMENTS.

The Crypto-Laryngoscope and Crypto-Rhinoscope.

Dr. Macintyre (*The Journal of Laryngology*, July, 1896), in giving a demonstration of the Röntgen rays before the British Laryngological, Rhinological and Otological Association, called attention to the importance of the X-rays in the special surgery of the larynx and the upper respiratory tract generally. This is specially the case in the detection of foreign bodies. Further, the fact that we can see and photograph different structures in the neck, localises these objects; and again, in the case of the larynx, and certainly in the case of the esophagus, it is easy to see instruments made of certain materials (particularly of steel) during the process of removal of foreign bodies.

Secondly, in one of the photographs, the destruction of the hard tissues of the upper jaw from malignant disease may be detected. Thirdly, we have here a force capable of doing a great deal more than the penetration accomplished by the ordinary methods of illuminating the antrum of Highmore. By the development of this process, we shall very likely be able to recognize the outlines of nearly all the deep-seated structures on fluorescent screens. Some have said that the soft tissues are transparent to these rays; this is wrong, as all tissues absorb some of the rays. It is only a matter of degree.

W. S.

A Nasal Bag.

Dr. W. Freudenthal (*Medical Record*, July 11, 1896) has devised a nasal bag which he claims is of benefit in controlling epistaxis in the abortion of acute coryza.

The apparatus consists of two equal-sized rubber bags connected by a rubber septum. In the upper part of each bag there is an opening that is closed by a screw cap. In hemorrhage of the nose, the bags are filled with ice and the bag fastened over the nose by means of a band. More ice may be added by passing it through the openings in the upper part of the receptacle.

In acute coryza a small pouch for camphor, menthol, etc., is attached below the bag for continuous inhalation. The apparatus is made in three sizes, by G. Tiemann & Co. W. S.

A New Middle Ear, Mastoid and Lachrymal Syringe.

Dr. Alfred Hinde (*Journ. Am. Med. Assn.*, Aug. 22, 1896) describes a syringe for aural work. The principle is that of the rubber-bulb dental syringe. The shaft is constructed to receive a variety of tips. The tips fit at nearly right angles to the shaft, thus giving a clear working area. There are four tips: *a*, straight; *b*, bent upward with opening at end of tube; *c*, same bend as *b*, with opening on the left side of tip (end closed); *d*, same bend as *b*, with opening on the right side of tip (end closed). The metal parts are of German silver. This instrument can be readily taken apart and sterilized.

New Snare for Post-Nasal and Intra-Nasal Surgical Operations.

J. Shadle (*Medical Record*, July 25, 1896) presents a snare of quite complicated mechanism. It contains both the ratchet and windlass principle, to facilitate either a fast or slow snaring. A protected, curved lance for transfixing the tumor is a special feature. It is constructed with an eye to strength, has curved and straight interchangeable wire carriers, and will remove fibroids, polypi and adenoids with equal facility.

BOOK REVIEWS.

Voice Building and Tone-Producing, Showing a New Method of Relieving Injured Vocal Cords by Tone Exercises.—By. H. Holbrook Curtis, Ph.B., M.D., of New York. Small octavo, pp. 227; cloth; 60 Illustrations; photo-lithographic frontispiece. Published by D. Appleton & Co., New York, 1896. Price, $2.00.

In this interesting, tersely-written volume the author records the results of his long experience in the examination and treatment of the throats of singers. To the laryngologist, vocal instructor and professional singer it presents suggestions of practical value in the management of the voice.

The introductory chapter, on the *Origin of Music*, is written in a popular style, and traces the history of music from the early ages to the present era. The chapters on *Anatomy and Physiology of the Larynx* and *Respiration*, which follow, are intended rather for the vocalist than for the scientist. Chapters on the *Vocal Resonators* and *Tones and Overtones* are preludes to the special feature of the volume—*Tone Placing* and *Voice Building*. A detailed description of tone exercises, to be used in overcoming serious affections of the vocal cords, is given, and a general scheme of the building of the voice on the theory of tone placing receives special prominence. The concluding chapter on *Voice Figures*, while of no practical import, is very interesting.

With the exception of special vocal exercises, no reference is made to therapeutics in the treatment of laryngeal affections. Attention is directed to the use of the laryngoscope in observing the vibratory changes of the vocal cords during singing, thereby noting any defects in their mechanism or structure. The style of the entire volume is not that of a scientific classic for the laryngologist, but rather a popular volume for the professional singer. However, the author, by his long experience with prominent singers of the highest and lowest registers, is an authority in this department of laryngology, and as such his work should take a high place in its class.

Catarrhal Diseases of the Respiratory Passages.—By J. M. G. Carter, M.A., M.O., Sc.D., Ph.D., Professor of Preventive and Clinical Medicine in the College of Physicians and Surgeons, Chicago; small 8vo.; pp. 135; cloth. Published by E. H. Colgrove & Co., Chicago. Price, $1.00.

This little treatise, as its title suggests, is devoted to the consideration of the catarrhal diseases of the mucous membrane of the respiratory tract.

Unusual prominence is given to the ætiological factor of this group of affections; their prevalence in connection with humidity, excess of ozone, lake winds, low temperature, and electrical condition of the atmosphere. In this one respect it is a departure from other small treatises of its kind; throughout the book the author draws his deductions from personal clinical and meteorological observations. Many of these facts have been expressed from time to time in contributions to the medical journals, and are herein presented as a series for those who may study in this field.

BOOKS AND PAMPHLETS RECEIVED.

Manhattan Eye and Ear Hospital Reports. The interesting series of cases reported will receive individual consideration in our "Current Literature" columns.

The Nu Sigma Nu Fraternity. Its Mission in the Medical Profession. By John L. Irwin, Ph.C., M.D., Detroit, Mich. Reprint, *Jour. Am. Med. Ass.*, Aug. 3, 1895.

The Fate of Micro-Organisms in Inspired Air. By St. Clair Thomson, M.D., and R. T. Hewlett, M.D., London, Eng. Reprint, *The Lancet*, Jan. 11, 1896.

Diseases of the Upper Air Passages. By St. Clair Thomson, M.D., M.R.C.P., F.R.C.S. Reprint, *The Practitioner*, July, 1896.

Lane Hospital and Cooper Dispensary Clinics of San Francisco. First Annual Report. It is very gratifying to note the excellent quality and great quantity of nose, throat and ear work done on the Pacific Coast, as indicated by these reports.

Management and Treatment of Tuberculosis in Asheville Climate, with Report of Cases. By James A. Burroughs, M.D., Asheville, N. C. Reprint from the *N. C. Med. Jour.*

Memoir of the Odoriferous Sense. By J. Mount Bleyer, M.D., F.R.A.M.S., New York. Reprinted from *Journal of Ophthalmology, Otology and Rhinology*.

Announcement of the Philadelphia Polyclinic and College for Graduates in Medicine, 1896–1897. This excellent school has a department devoted to the Nose and Throat, and a department to the Ear. For further particulars address Max J. Stern, M.D., Secretary.

NEWS ITEMS.

Dr. Judson Daland

Has been appointed Professor of Diseases of the Chest in the Philadelphia Polyclinic.

Dr. Frank Whitman Ring,

Of New York, died July 16th. Dr. Ring attained eminence in his specialties, the eye and ear, practicing in New York since 1883. He was a prominent member of the staff of surgeons of the Manhatten Eye and Ear Hospital.

Dr. D. Braden Kyle and Dr. Wm. S. Jones

Have been elected Clinical Professors of Laryngology to the Jefferson Medical College, Philadelphia.

Dr. Robert Levy.

We congratulate our esteemed confrere, Dr. Robert Levy, of Denver, on his recent election as President of the Colorado State Medical Society, and we compliment the society on its choice of so active and energetic a man for its presiding officer.

PUBLISHER'S DEPARTMENT.

The Absorption of Iron Preparations.

It is a now generally accepted fact that inorganic iron preparations are practically worthless in blood therapeutics, while organic compounds exert varying effects in the ratio to their absorbability. The albuminate preparations have a certain degree of value because they supply, in loose combination, the components from which the system can compound the required form of iron—just as it is abstracted from all food. This natural form of iron, as it is found in the tissues, and particularly in the liver, where it "comprises the reserve store for blood formation" is ferratin, as substantiated by the studies of Schmiedeberg, Marfori and Filippi, and confirmed by other equally high authorities, including Prof. Chittenden, of Yale.

These investigators have proved that ferratin is present in all human organisms, that it is absorbed from animal and vegetable food, and is stored principally in the liver—"to feed the blood." When, therefore, the physician treats his anemic patient with carefully selected diet, exercise, hygienic measures, etc., he unconsciously enlists the aid of the digestive and other organs to manufacture the required ferratin from the food ingested; this is a laborious task, because the organs are weak—and it is empirical practice, because there is too much uncertainty in trusting to the debilitated system to work its own recovery, even if useless inorganic iron preparations are added.

Schmiedeberg and Marfori having proved the identity and function of ferratin by conclusive physiological tests, which facts are now incorporated in text-books and medical literature, proceeded to duplicate natural ferratin by a synthetic process, in order to make the product available for therapeutic use; they succeeded in combining tartrate of iron with albumen by a complicated chemical process, yielding an iron albuminic acid—or *ferratin*. This product is chemically and physically identical with the natural ferratin as it can be precipitated from pigs' liver (containing the highest percentage of ferratin among animal food) or spinach (highest percentage among vegetables); and further physiological and clinical tests have proved that this product is quickly absorbed and assimilated, supplying the requisite amount of iron to the blood without taxing the system, and increasing the appetite and quickly stimulating the vital power.

There is nothing vague about the claims for ferratin. It is a logical scientific agent, designed on careful consecutive investigations by the highest international authorities; and it has clinically redeemed every promise made for it, by increasing blood-corpuscles and hæmoglobin, improving appetite and general well-being, and markedly increasing body-weight.

Sajous' Annual for 1895 quotes the unqualified clinical tests and endorsements of ferratin of such authorities (in addition to the authors of the product, Schmiedeberg and Manfori) as German Sée, Jaquet, Banholzer, John Harold and Hugo Wiener—the foremost therapeutists of Germany, Italy, France, England and Austria. In America, ferratin has been endorsed in print by Einhorn of New York, Fackler of Cincinnati, Chittenden of New Haven, Perekhan of Chicago, Spencer of Cleveland, and verbally or in practice by hundreds of the foremost practitioners in all parts of the United States.

There are many iron compounds and blood tonics, all clamoring for preference; none has the scientific status, based on physiological investigation and proof, and endorsed on clinical records by authorities of highest rank and unquestioned sincerity, as possessed by ferratin and duly recorded in all standard text and reference books of recent issue.

A New Instrument.

The Instant Cut-Off Company of Port Huron, Mich., have recently placed a CUT-OFF on the market, which, for simplicity in construction, durability, neatness in appearance, efficiency and cheapness, has been recommended by all who have seen and used it. It can be used equally well with any kind of spray tube when fitted to the nozzle. We believe the readers of THE LARYNGOSCOPE who use compressed air for nose, throat and ear work, will appreciate this little instrument.

Neuroses of the Larynx.

In a "Note on Codeine," in the *Lancet*, Dr. James Braithwaite, of Leeds, says: "Codeine seems to have a special action upon the nerves of the larynx; hence it relieves a tickling cough better than any ordinary form of opium. One-half of a grain may be given half an hour before bedtime. It was in my own case that I first began to use codeine. For more than twenty years, usually once every winter, I have been seized with a spasmodic cough just before going to sleep, which becomes so severe that I am compelled to get up and sit by the fire. After an hour or two I return to bed and am free from the cough till the next winter. In other respects I enjoy good health. Many years ago I found that one-half grain of codeine, taken about two hours before bedtime, absolutely stops the attack and leaves no unpleasant effect the next morning. In cases of vomiting from almost any cause, one-quarter grain doses of codeine usually answers exceedingly well. In the milder forms of diarrhœa one-half grain of the drug usually answers most satisfactorilly, and there are no unpleasant after-effects.

We find, however, that where there is great pain, the analgesic effect of codeine may not be sufficient, and a combination with antikamnia is required. It is best given in the form of a tablet, the proportions being 4¾ grains antikamnia and ¼ grain codeine. Sometimes chronic neuroses may be cured by breaking the continuity of the pain, for which purpose we have found this combination peculiarly suited.

Clinical reports in great numbers are being received from many sections of this country, which, while verifying Dr. Braithwaite's observations as to the value of codeine, place even a more exalted value upon the advisability of always combining it with antikamnia in treatment of any neuroses of the larynx, coughs, bronchial affections, excessive vomiting, milder forms of diarrhæa, as well as chronic neuroses; the therapeutical value of both being enhanced by combination. The tablets of "Antikamnia and Codeine," containing 4¾ grains antikamnia and ¼ grain codeine, meet the indications almost universally.—*New Pharm. Products.*

THE

LARYNGOSCOPE.

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ORIGINAL COMMUNICATIONS.

SYPHILITIC ULCERS OF THE PHARYNX.

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The syphilologist has been accused of seeing syphilis everywhere; and unfortunately he does see it in all manners, classes, conditions and ages of individuals so frequently and under such peculiar circumstances that he is never surprised to see the disease obtrude itself under the form of one manifestation or another. The cases are numerous in which the disease was never manifested or the patient never informed of what it was. In the former, lesions show themselves without any satisfactory history, and in the latter there is none at all. In either case the untrained observer will boldly rush to the rescue, ignorant of what he has to contend with, and powerless to render any adequate or material assistance. On the other hand, the trained syphilologist recognizes the trouble at once and brings relief of so marked a character, and in so rapid a manner, that his acts are looked upon as being but little short of the miraculous. These few preliminary remarks have been suggested by the fact that many self-styled laryngologists have failed to recognize syphilitic ulcers of the pharynx which the writer recognized directly he saw them, and which he brought to a successful termination by a resort to proper local and general measures.

Syphilitic ulcers of the pharynx are by no means rarities. They occur with sufficient frequency to deserve more attention than has heretofore been accorded them. The ulcer may begin in one of two ways—either as a dark, brownish patch of the mucosa, or as a mucous patch. Whilst it may be true that these lesions do not invariably become ulcers, they do so sufficiently often to awaken an interest and lead to careful examination and adequate treatment. In all such cases there is a syphilitic angina of a more or less pronounced character which in itself demands good local treatment, supplemented by internal medication. As a rule, the first evidence of localization of the syphilitic process in the pharynx is neglected by the patient, and it is only later on when a certain amount of destruction of tissue has taken place that he seeks for relief. At the beginning there is a feeling of dryness of the throat, accompanied by some heat. The patient is continually hawking and succeeds in dislodging but a very small quantity of glairy, sticky mucus. Later on, when the epithelial covering of the mucosa is removed, some pain is felt at every effort at deglutition, and this pain is accentuated by hot or alcoholic drinks, and by highly seasoned food or a large bolus. It is at this time that relief is frequently sought. Some who are more careless permit the trouble to go on until an ulcer has declared itself, often of a serious nature and possessing marked destructive tendencies.

To go into a full and detailed description of all the varieties of pharyngeal ulcers of syphilitic origin would require more space than the limits of a short article would permit. The principal varieties which occur in the observation of those who devote themselves to laryngology are the superficial, the deep, the phagedenic, and the gummatous. In all of these varieties the ulcers may be single or multiple, and in the latter case they are usually situated close to one another, and soon coalesce to form one large irregular lesion. The mucous membrane seems to share this among other peculiarities which it seems to possess in common with the integument. As a rule these ulcers of the pharynx are single, and it is only in those who have a depraved constitution and broken down tissues that multiple ulcers are noted. Even then they are rarely of the same age, but appear one after another, and rapidly coalesce in forming a large, painful lesion.

The superficial ulcer resembles a mucous patch very closely, but differs from it in some essential respects. It is deeper and there is very plain evidence of the destructive process which is going on. The contour is roundish or ovalish in form, as shown in Fig. 1, and the edges are more or less thickened and rounded on their edges. The sides are more or less sloping, and merely the basal membrane of the mucosa is attacked. On this account the spread is slow and centrifugal in a manner which is very regular. The floor of the ulcer is tolerably smooth, the secretion of pus being rather scanty and mixed with mucus. The ulcer is not a particularly painful one, but occasions much inconvenience on account of the muco-purulent secretion which is constantly forming. Care should always be exercised to prevent the spread of the lesion, which is apt to take place in a horizontal direction and implicate a comparatively large area. Another complication which may supervene, if the soft palate is very mobile, is for the velum to develop a similar lesion on its posterior surface through the apposition which sometimes occurs. Whilst this is quite an infrequent occurrence, I have had occasion to note it on several occasions, and it produces a condition of affairs rather difficult of successful management. Another disturbing factor is the prolongation of the duration of the trouble which it brings about.

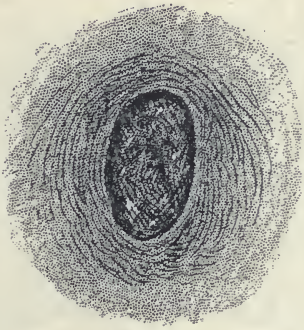

FIGURE 1.

In the deep, syphilitic pharyngeal ulcer we have a lesion which most frequently originates from a superficial one, or rather which begins as one apparently so. In a very short time there is marked destruction of the submucous tissues, and the process manifests itself not only in a vertical direction, but at the periphery as well. The borders become irregular, of marked thickness, and of a dark, brownish red. They are thickened and indurated, presenting a more or less denticulated contour. The floor of such an ulcer is more or less excavated, and is very irregular in the surface presented. Granulations are large, but pale and of an unhealthy appearance. They break down easily and do not seem to exercise much, if any, power in the furtherance of healing. The general appearance of the lesion is given in Figure 2. So far as the surrounding mucous membrane is concerned, it is of a dusky red color, and is very typical of the syphilitic origin so much spoken of by syphilologists. The secretion is rather profuse and of a markedly purulent character. The destructive process not only manifests itself in a vertical direction, but spreads laterally until a comparatively large area is involved in the trouble. The process is not a very rapid one, but it is steady and is not only inconvenient, but soon becomes markedly painful. It occurs, as a general rule, in those individuals who have undergone insufficient or inefficient treatment, and in whom there has been a great amount of neglect in following the medication which was ordered. In addition to this we find other cases which have been at work to render the condition more aggravated, chief among which is an over-indulgence in alcoholics. It must always be borne in mind that what constitutes a moderate amount in one individual is excessive in another, and will proportionately work harm in the one case where it does but comparatively little damage in the other.

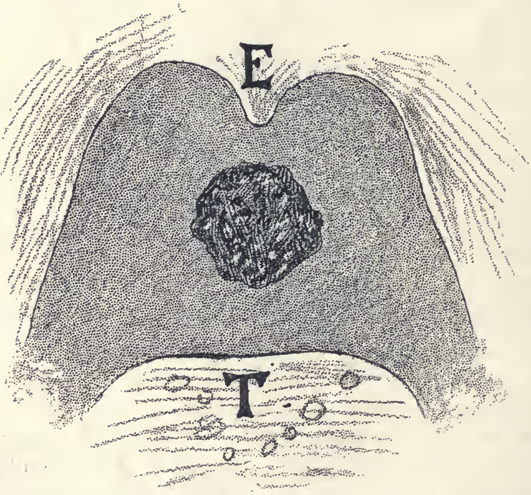

FIGURE 2.

The syphilitic phagedenic ulcer of the pharynx is one which, like all processes of that nature, is extremely virulent and most rapid in its course of destruction. It spreads with lightning-like rapidity and involves all the tissues in an irregular fashion and has no tendency whatever to self-limitation, a peculiarity which is often noted in the two other forms which have just been noted. As would be naturally supposed it is of very irregular form and deep. The secretion is profuse and sanguinous, besides being somewhat ichorous. It has a great tendency to spread to the pillars of the fauces, and to attack the posterior wall of the velum palati, involving that structure in the destructive process. The great danger connected with this form of ulcer is its extension to the epiglottis, which is destroyed, and down into the larynx, producing ravages beyond repair and leading oftimes to a lethal exitus. This form of ulcer is, fortunately, quite rare. It is only seen in hospital practice, and only then in those who have existed under the most depraved physical conditions. It is individuals besotted by drink, living from hand to mouth, who sleep in doorways and in the parks and on the highroads, and are total strangers to cleanliness, hygiene and proper food, who are the victims of this most destructive form of ulceration of the pharynx. As a rule, they exhibit external ulcers also, as an indication of the generally broken-down condition of their organisms. For such there is but little hope of bringing about an amelioration of their condition, as they cannot afford nor can public hospitals furnish them the proper means to obtain a perfect recovery.

The gummatous ulcer of the pharynx is one which is the result of either carelessness or of inefficient treatment. It always originates from a gumma of the pharynx, and unless this lesion be recognized and efficiently treated as soon as it appears a very ugly ulcer will result. As every one knows, the final stage of the gumma is ulceration, and when this occurs a rather large suppurating cavity is the result. In the pharynx but one occurs at a time, and it is a rather important matter to recognize the lesion, as, if it be permitted to go on, it may bring on a caries of the body of the vertebra over which it is located. Many cases of caries of the bodies of the cervical vertebræ have proven fatal or resulted in a certain amount of spinal paresis which could have been relieved had a proper diagnosis been made in time. In the gummatous ulcer there exists a lesion not larger than the little finger-nail, or perhaps as large as the thumb-nail, which is very deep in character and having slightly sloping walls. It is abundantly provided with granulations, and has a tendency to heal under the slightest encouragement. A rather reddish areola surrounds the ulcer, whose edges are somewhat indurated and have a tendency to curl outward. The pain is not excessive, but it is in proportion to the depth of the process. The secretion is a rather thick pus and rather abundant in character. As a rule, the contour is a very regular one, most often roundish, and occasionally ovalish. The floor is irregular, owing to the granulations and to the amount of destruction, which varies greatly even in different portions of one ulcer. At all times and in any event the gummatous ulcer is one which should be closely watched, and, if possible, prevented by early and thorough treatment of the gumma. Gummata of the pharynx and of the palate are by no means rare, and the laryngologist should perfect himself in their diagnosis and treatment.

All of these varieties of syphilitic ulcers possess the peculiar fetor so characteristic of hectic destructive processes. But while they are all similar in the sort of smell they emit, they differ very materially in the matter of intensity. The more shallow the ulcer the less intense is the fetor, although at its best it is nauseating and disagreeable to the patient as well as to others. In those cases in which there is caries the stench is overpowering and nauseating to a degree. It is even more powerful than in cases of caries of the nasal bones of congenital syphilis. In order to mitigate this odor, those who possess it often resort to musk pastilles or equally strongly perfumed candies, and succeed in rendering the smell still more disagreeable. The only efficient method of getting rid of the foul breath is by means of thorough and efficient treatment.

I do not purpose taking into consideration the internal or general treatment which should be followed, as it would take up too much space. Suffice it to say that it should be very active and thorough, or else but short and unsatisfactory progress will be made. The local treatment differs in the different forms of pharyngeal ulcers of syphilitic origin. One general rule, however, may be laid down—the lesion should be thoroughly cleansed before any application is made or before operative measures are attempted. This is not only for the purpose of permitting applications to act better, and to have a clear field, but to prevent infection from the numerous pyogenic organisms which always swarm in these ulcers. The best detergent to employ is without doubt a bichloride solution, 1-1000, either swabbed or sprayed on the lesion. Having cleared it and cleansed it the application proper may then be made.

In the superficial ulcer a solution of acid nitrate of mercury in the strength of one to eight may be applied. Or nitric acid, C. P. is good if properly used, and the best method is as follows: A piece of soft pine wood of the size of a lead pencil is cut off square at one end. This is dipped in nitric acid, which is allowed to soak in the wood. The squared end is then placed against the ulcer which turns white. Very little pain, or none at all, follows such an application. The healing process sets in immediately, and one or two more applications at intervals of two or three days will suffice. The same treatment carried out in a little more energetic manner will prove equally valuable in the deep ulcer. Experience will show that neither nitrate of silver nor chromic acid act as well, and, in addition, obscure the lesion. In the phagedenic form currettement should be employed, and then followed up with the nitric acid, more especially at the edges. When a gummatous ulcer is to be treated the sharp spoon should be used thoroughly; and if the underlying bone is involved it should be thoroughly scraped out. After doing this a bichloride solution of not less strength than 1-250 should be applied.

Such is a brief outline of the appearance and local treatment of pharyngeal syphilitic ulcers. Were it not for the limitations of space I would detail a few illustrative cases of different forms which have occurred in my practice.

COMPARATIVE VALUE OF THE SENSE OF HEARING TO THE SENSE OF SIGHT.

BY M. A. GOLDSTEIN, M.D., B.SC., ST. LOUIS.

Professor of Otology, Beaumont Hospital Medical College; Consulting Aurist to the Alexian Brothers' Hospital, and to the Sisters of St. Joseph School for the Deaf; Aurist and Laryngologist to the Lafayette Dispensary, Etc., Etc.

The sense of hearing, being necessary to social intercourse, and not easily admitting of a substitute, stands in even a more intimate relationship to the intellectual life and spiritual education of mankind than the sense of vision with its recognition of form and color.

In the consideration of this theme it may be interesting to trace the relative importance of the two most prominent organs of special sense, the ear and the eye, in their physiological, anatomical and economic bearing to the general system.

Anatomically compared, there exists an analogy between the ear and the eye, which is truly remarkable, an analogy which is demonstrated in every detail of construction.

Membrana tympana versus cornea—ext. audit. canal versus iris—cerumen versus eyelash, cavum tympanum versus lens—optic nerve versus auditory nerve—labyrinth and organ of Corti versus retina and rods and cones—sound versus light. The comparison is endless. From a physiological point of view we note:

That there is only *one* stimulus which excites the optic nerve, *light*. If electrical, mechanical or other stimuli be applied to the optic nerve, *light* is the only sensation which is produced. Unaided, the eye perceives *color* and *size* only. The judgment of form and distance is only a matter of education, and cannot be accomplished by the eye alone.

Without the sense of *touch* the eye is absolutely powerless to convey the impressions of form, weight, distance, thickness or density. The ear, on the contrary, performs all its functions unaided, and is more universal in its comprehension. Not only does it comprehend the *quality* of sound, but also the pitch, the intensity, and the distance at which the sound is produced.

The eye, deprived of the sense of *touch*, is left a comparatively much weaker organ; stripped of many of its important perceptions, which it is unable to perform without this valuable aid.

The ear, as is evident to all, works *unaided*, and the deprivation of any of the special senses does not lessen its power; on the contrary, it strengthens it and makes the hearing more acute. An excellent instance of this is in the blind, where, in many cases, the sense of hearing is very highly and keenly developed. In the blind the sense of *touch*, which is virtually the *accessory* organ to the sense of sight, becomes so highly developed, and so wonderfully sensitive, *as almost to act as a substitute for the eye;* and for the blind, the training and teaching can be so thorough as to almost substitute the delicate *touch of the finger tips for the sense of sight.*

Have you ever visited a school for the instruction of the blind—have you noted the school room filled with contented, peaceful faces—the hands of the pupils gliding noiselessly over the pages of their embossed-letter books, following the teacher attentively as he reads the lesson of the day; pupils, whose sympathies, whose interests, whose ambitions can be aroused by the sound of the human voice?

Have you ever been informed as to their rapid progress in scholastic work; of the brightness of their minds, the cheerfulness of their disposition, their love for music and the harmonies of sound, their ambition to become educated?

Let me now present *another* school-room picture—a school-room in an asylum for deaf mutes. The first striking comparison is the age of the pupils. Our blind pupils wear happy, young faces; here these deaf mutes seem prematurely aged; their faces lack expression; the teacher's labors are manifold, for the powers of comprehension of his pupils are blunt. They cannot hear the appeal and the influence of the mighty human voice. Alas! not only they cannot *hear* the human voice, but their OWN *power of speech* is gone. Either they have been *born* deaf and have never known what the human voice in all its grandeur *is*, or, in their deafness, its magnetic sounds have long since been forgotten.

So a *double* misfortune stares them in the face. They are both *deaf* and *dumb*; they may see, but it is with difficulty that they convey their impressions to others; they may taste or touch, but their limited development allows them but small opportunity for appreciation. Their progress is slow, and that fact in *itself* is an important consideration. For with that great opportunity of educational development, *reading*, it would seem that a great portion of intellectual advancement is in their grasp. Yet they *cannot* rise to the occasion, and that reading does *not* appeal to *them* as to a *healthy reader* is sufficient proof of their stunted faculties.

The influences which even *partial* deafness exert upon the intellectual development of a child are of paramount importance. The beginning and basis of all knowledge is the sense of experience. The impressions of external objects as they are carried by the senses to the brain furnishes to the intellect the materials for the foundation of ideas. The more acute our senses are, the more clearly and plainly our expressed thought; if, on the contrary, the sensitive perceptions are blunted, are partial and undecided, the entire nature and character of the individual will bear the stamp of incompleteness and uncertainty.

A young child cannot *read* expressed thoughts, but it can *hear every sound* of the ever-powerful human voice, and is always thrilled by its wonderful influence. There is nothing so impressive, so awe-inspiring, so commanding, so effective, exerting so strong an influence over the human mind, as the human voice; and there is only one way in which perception and conception of the human voice is possible—only one way by which the voice can reach and stir the human soul—and that is the ear.

Therefore deafness occurring in early life acquires a permanent influence upon the formation and development of the intellectual and moral nature. Such unfortunate children are not only unable to concentrate their attention, but they remain inattentive and fickle, while the want of an acute perception, which is chiefly attained through the ear, renders a connected train of thought and a comprehensive understanding very difficult.

At school these little unfortunates are subject to the constant ridicule of their classmates, and are continually reprimanded by their teachers for their inattention. Can you picture to yourselves for a moment the anguish and distress stirring the feelings of these little souls? This is true even of a moderate impairment of hearing; if, furthermore, there is a high degree or *total* deafness the calamity is indeed great and sad; for the child who does not *hear* the human voice does not learn to *speak at all*, or if older forgets the sound of the words, and in either case becomes completely *dumb* as well as *deaf*.

The blind are shown every compassion, every assistance, every sympathy; they are guided in every way, and are as a rule a happy, contented lot.

The deaf are left to stir for themselves, subject to the ridicule of their associates, ostracised from society, helpless in the articulation of speech, helpless in the perception of sound. They can communicate only with their own unfortunate associates or those trained in the use of their signs.

This factor alone — the comparative reception of the blind and the deaf by their fellow men—might be cited as a criterion, a standard, of society's judgment as to which is the greater misfortune.

The sway of musical sounds over the soul, the power of the spoken word, giving beauty and expression to thought, are forces appreciated by everyone open to the influences that make the cultivated man.

CLERGYMAN'S SORE THROAT.*

BY PRICE-BROWN, M.D., TORONTO.

The writer, in selecting this title for his paper, has done so on account of the still common practice among clergymen and general practitioners of applying it in all cases of chronic soreness of throat to which the former are liable.

By most of the older writers the term was confined to chronic follicular pharyngitis. Sajous, in his recent issue, limits it to laryngitis, while Bosworth ignores it altogether. Hence, being indefinite in meaning, ignored by some writers, differently defined by others, and the symptoms complained of being produced by a variety of diseases, it would be better for both lay and professional men to discard it altogether, and to name the throat disease on the basis of etiology.

A large majority of cases of chronic throat disease in clergymen arise from nasal or naso-pharyngeal obstruction of one form or another, and to cure the disease we must remove the stenosis.

The nose in a normal state performs the three-fold function of cleansing, heating and saturating the air of respiration before it reaches the throat; duties which can only be efficiently performed when nasal respiration is unimpeded. To produce this air saturation, the turbinateds throw out by transudation from ℥xii. to ℥xvi. of serum per diem. No other bodies possess the venous sinuses required to produce this supply, and consequently when nasal stenosis exists the scant pharyngeal moisture is quickly absorbed by the air, leaving a dry mucosa.

Oral breathing when established, in voice users particularly, frequently produces follicular pharyngitis, chronic laryngitis, or a boggy infiltrated mucosa, singly or combined, and is often attended by the secretion of a thick tenacious mucus or muco-pus, the screatus required for the removal of which increases the pharyngeal irritation.

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*Abstract of paper read before Dominion Med. Association, Montreal, August, 1896.

Hypertrophy and elongation of the uvula are also not infrequently the direct results of the irritation produced by this kind of breathing.

It is possible that the throat symptoms enumerated may sometimes arise by reflex action from digestive disturbances; but as a rule they owe their origin to nasal obstruction of one form or another.

The writer concludes by giving the history of ten cases of throat disease in clergymen, selected from a record of twenty-five. They were chosen as representative cases, all differing from each other as to cause, but all presenting similar throat symptoms. Four-fifths of them, or eighty per cent., owe their origin to nasal obstruction.

The treatment in all cases was the removal of whatever obstructions existed, followed by mild spray treatment during the process of healing, care being always taken not to excise too deeply, or to remove in any way the normal tissue. As a result, the throat symptoms in all cases improved, and in many disappeared.

The ten cases reported are epitomized as follows:

In one there was a large polypus in one nasal cavity.

In one a dislocated columnar cartilage.

In one a twisted or contorted uvula.

In one hypertrophy of the faucial tonsils.

In one ulceration in the left hyoid fossa.

In two there were septal ridges.

In two septal spurs.

In two catarrhal hypertrophies of the post-septum.

In two elongation and hypertrophy of the uvula.

In two pharyngeal granulations.

In three turbinal hypertrophies.

While in one only, the most hopeless case of all, and in which there was no hypertrophy anywhere, there was uncomplicated laryngeal disease.

CLINICAL REPORTS.

REPORT OF A CASE OF EPILEPSY DUE TO NASAL OBSTRUCTION.*

BY FRANK C. TODD, M.D., MINNEAPOLIS, MINN.

G. L., aged 17 years, a farmer's boy, was referred to the author January 8th, by Dr. Capps, of Ft. Worth. He had been suffering with epilepsy for about a month previous to the consultation; his attacks had occurred almost daily, and on several occasions he had had more than one attack in one day.

The fit was preceded by an aura, a feeling of faintness in his stomach, which sensation passed up into his head in the frontal region, when, as he expressed it, the sensation became a pain and "knocked" him down. These attacks usually lasted a half hour or more, after which he would sleep, as they always made him drowsy. He said he did not always become unconscious, but there is reason to believe that he was mistaken on this point.

He complained of having occasional headaches in the region of the temples and over the eyes, and also of slight dizziness. No other asthenopic symptoms could be elicited.

Examination of his eyes under hematropine revealed only .25 D. hypermetropia, and .25 D. hypermetropic astigmatism, axis 180°. The muscles were orthophoric. It could hardly be expected to obtain any beneficial results by the use of glasses, but it was thought best to try them, and the full correction was prescribed. Meanwhile, under Dr. Capps' directions, the patient was taking bromides and his attacks were lessened in frequency.

About a week after the glasses had been prescribed, he contracted a severe cold in his head, and suffered intense pain in the region of the frontal sinus; this pain was relieved by morphine, but his attacks returned with renewed vigor and frequency, always preceded by the intense frontal headache, though no more stomach sensations were noticed.

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*Read before the Texas Medical Association, at Ft. Worth, Texas, May 1, 1896.

While in the office one day during this period he had an attack, and particular attention was directed to all of his symptoms. The pain was agonizing and referred to the frontal sinus, more pronounced on the left side, which region was very sensitive to touch. After crying aloud from the pain for several minutes, he lost all power over his muscles and became entirely unconscious; the convulsive stage lasted but a moment, after which his muscles were relaxed and he remained as in a natural sleep, excepting that he could not be aroused. When he recovered his pain was gone, but the soreness still remained.

Subsequent examination of the nares revealed a large ecchondrosis almost completely closing the left passage. In fact, at this time, when the tissues were swollen, he was unable to breathe at all through his nostril. The post-nasal space was clear, but it is probable that adenoids had been present. He had been a mouth-breather, though there was good breathing space through the right side of his nose.

The diagnosis of frontal abscess, left side, and ethmoiditis was made. By the use of a spray of a four per cent. solution of cocaine the swollen tissues became so contracted that the pus could escape from the frontal sinus, and the inflammation and pain gradually subsided, so that in two weeks no soreness remained. With the subsidence of the inflammation the attacks disappeared.

An attempt was then made to cocainize the tissues preparatory to removal of the tumor, but the patient showed a peculiar susceptibility to the use of a stronger solution of cocaine applied for a longer time, and the operation was deferred until a general anæsthetic could be given.

Accordingly, several days later, chloroform was administered, and the tumor was removed by the use of the saw. The next day an inspection back of the site of the operation revealed another smaller spur posterior and superior to one operated upon, and it was also observed that the middle turbinated body had become adherent to the septum, evidently as a result of old inflammation.

This last spur was removed by the use of a four per cent. solution of cocaine combined with carbolic acid, atropine and digitalin, a week later.

After the first operation he had but two attacks, and these occurred within a few days after operating, and were attributed to the pressure caused by the cotton tampons which had been used to plug the left nostril to prevent hemorrhage and adhesions. Since removing the cotton permanently he has had no attack nor headache. The bromides were stopped, and he has since been taking only a tonic. He has gained several pounds and his general health is greatly improved.*

There have been quite a number of cases reported of epilepsy due to intra-nasal mal conditions, but in spite of this fact the text-books give the subject little attention, and most of them do not even mention it.

The peculiar idiosyncracy which the patient showed when a ten per cent. solution of cocaine was applied on a pledget of cotton is worthy of note. He dropped off to sleep while sitting in a chair, and though he could be aroused he would drop right off again. The stupor was very much like the effects of morphine, and it was impossible to keep him awake. Whiskey was administered and the patient was allowed to sleep off his stupor, as his pulse and respiration were normal and no alarming symptoms were manifested. This sleep lasted for several hours, and there were no after-effects.

No. 304 Dayton Building.

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*In June the patient called last; he was working hard on a farm and enjoying the best of health, having had none of his former symptoms.

REPORT OF A CASE OF BLEEDING FROM THE LINGUAL TONSILS.

BY HAL FOSTER, A.B., M.D.,

Laryngologist to St. Margarets, All Saints, Missouri Pacific and Memphis Hospitals; Secretary of Western Ophthalmological, Otological, Laryngological and Rhinological Association, Kansas City, Mo.

In 1877 Heyman called the attention of the medical profession to diseased conditions of the lingual tonsils. The base of the tongue is covered with lymphoid tissue, called lingual tonsils.

I trust that the report of the following case will demonstrate how necessary it is to understand diseased conditions of these tonsils. It will also show how much annoyance is caused thereby:

March 5th, 1896, Miss R., age 25, from western Missouri, was referred to me by my old friend, Dr. Willis P. King, of this city. She was a country school teacher. Family history good. The patient was pale; appetite poor; and was unable to sleep at night. The last month or two a hacking cough had annoyed her constantly. Her expression was anxious, and she presented all the appearance of a patient suffering with some incurable malady. There was pain on deglutition. She was in constant dread of being suffocated, and complained of a "tightness" of the throat. This condition had brought on neurasthenia. There was a constant desire to swallow. Three or four times daily, during the coughing, profuse bleeding would set in, which always frightened her greatly.

Her friends, as well as herself, had arrived at the conclusion that she would die in a few weeks of tuberculosis. In other words, she was almost a complete physical wreck. The lungs were found to be perfectly normal. On a careful examination of the nostrils, I found her to be suffering with hypertrophic rhinitis. This condition caused her to take cold on the slightest exposure or least change of temperature. Her throat was now carefully examined with the laryngoscope; the lingual tonsils were found to be very much enlarged. They were so badly irritated as to bleed when touched by a laryngeal cotton applicator. All the veins here were swollen, which accounts for the bleeding from her throat. In my experience, complete removal is the only remedy for this distressing trouble.

There are several methods of doing this, namely: chemicals, snares, knives, and the galvano-cautery. I have been in the habit of using the latter exclusively. In using the galvano-cautery great care should be exercised not to burn the epiglottis. The parts should first be made anesthetic by applying a 10-per-cent. solution of cocaine or eucaine.

After this treatment the patient will be obliged to take liquid diet for a few days. If great care is exercised the use of the cautery always gives rapid and brilliant results.

After explaining the difficulty to the patient and friends, and informing them as to the remedy, a 10-per-cent. solution of cocaine was applied directly to the diseased parts, and the galvano-cautery was applied with great care twice a week until each vein had been removed.

For the first week she was given milk, and antiseptic sprays were given frequently during the day. Tonics of iron and strychnine were given, and daily walks in the air. After the first treatment the bleeding and cough ceased, and with it the great anxiety left the lady. Sleeping was now a pleasure. Her appetite rapidly returned, and she gained in flesh, and walked to my office daily for two months. In her case the galvano-cautery was applied to a small place only at each treatment. This was done in order not to shock her too much or make the throat too sore. She returned home entirely well, and to-day is one of the most grateful patients I have ever treated.

In reporting this case I do not mean to say that the lingual tonsils always bleed when diseased. I do insist that in all obscure coughs or bleedings from the throat a careful examination should be made of these tonsils.

Dr. W. L. Dayton, of Lincoln, in *Journal of Laryngology and Ophthalmology*, October, 1892, reports cases. I am under obligations to Dr. J. C. Stewart for drawing the accompanying cut.

11th and Walnut Sts., Altman Building.

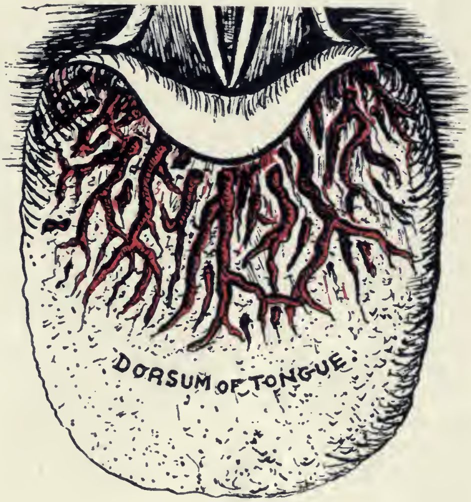

PLATE I.

Varicose Blood-Vessels at the Base of the Tongue.

A PREPLEXING CASE OF TRACHEOTOMY FOR FOREIGN BODY.—RECOVERY.

BY EDWARD F. PARKER, M.D.

Professor of Physiology and Assistant in Diseases of the Eye, Ear, Throat and Nose in the Medical College of South Carolina, Charleston, S. C.

On May 11th, C. B. C., a young child, fifteen months old, in perfect health and exuberant spirits, ran innocently to its mother with a jackstone in its hand, and, on being told to give it up, ran as carelessly away, only to return in a few minutes gasping for breath and all the symptoms of impending suffocation. A doctor was immediately summoned, and arriving soon after the accident found the child's saliva tinged with blood, but after a careful digital examination of the throat could detect no foreign body. Emetics were given without any effect, and followed by several doses of castor oil, but no jackstone was found in the stools. On the next day its condition was promising, though its breathing was still labored. Towards evening respiration became more difficult, and for the first time the child refused to nurse. Becoming rapidly worse on the 13th, the patient was referred to me, and I saw it at 2 P. M. Its condition was then alarming in the extreme; cold extremities, cyanosed face, drowsy look, dull eyes, and noisy, difficult breathing. Chloroform was given and the throat, larynx and œsophagus examined with the laryngoscope as well as with the finger. Nothing abnormal was detected except some inflammatory swelling of the laryngeal aperture, which was hardly sufficient to cause such obstruction as appeared to exist. The dyspnœa increasing, I advised immediate tracheotomy, but the parents objecting it was agreed that I should make a visit later in the evening, prepared to operate if the symptoms still justified such a course. On reaching the house at 9 P. M. it was thought the child was dying, and an operation eagerly requested. On opening the trachea I passed a large probe up into the mouth and down to the bifurcation of the tube without meeting any foreign body. A tracheotomy tube was then inserted and gave such relief that the child, immediately on waking, began to nurse. All went well for a few days, when I noticed that some of the milk would pass out of the tube while it was taking the breast or would excite an attack of coughiug with the same result. In drinking from a cup the mouth would be filled first and the milk slowly swallowed, and occasionally a small quantity seemed to be regurgitated. Concluding from these symptoms that the jackstone was in the œsophagus I advised an exploration under anesthesia; but the parents would not consent, and in a few days to my surprise all signs of œsophageal obstruction disappeared. A diarrhœa now began, characterized by dark green stools, and only subsided after a week's treatment.

The latter part of the month following the operation found the little patient improving in health, but though the tube was frequently removed for cleansing I had found it impossible to make the child do without it.

Every attempt brought on serious symptoms of asphyxia, and it would become livid, and the body bathed in a clammy sweat, so that I would reluctantly have to reinsert the tube. On July 14th the tube was at last removed, the wound closed quickly and there was a rapid improvement in the general health visible. On July 18th the child gave evidence of severe pain with each discharge from the bowels, and feeling sure that this was at last the jackstone, I carefully examined the rectum only to be again disappointed. This symptom gradually disappeared, and at this date, three months after the operation, the child is well and hearty, eating any kind of food, and only suffers from occasional attacks of short breath after exertion of some sort.

Some points in the above case appear to my mind very interesting. If the jackstone is in the digestive tract would not its presence have by this time been evidenced by some symptoms, dangerous or otherwise, referable to the abdomen? If, on the other hand, it was never retained in the body, what was the cause of such persistent and serious dyspnœa? The operation was urgently indicated on account of the asphyxia and entirely independent of the supposed presence of a foreign body. It is well known that foreign bodies in the upper part of the œsophagus may and generally do embarrass respiration either by direct pressure on the trachea or by reflexly causing some contraction of the glottis; but in this case the discontinuance of the œsophageal obstruction symptoms was not followed by any cessation of respiratory embarrassment. A case was recently reported of the successful removal of a jackstone located by the use of the X rays, in Philadelphia. I believe at the time the jackstone in question was swallowed we could not avail ourselves of this method of diagnosis. It was no doubt an error of omission in not exploring the œsophagus with a bougie on my first examination; but it teaches a valuable lesson, and my experience here will lead me always to examine both œsophagus and trachea notwithstanding such a preponderance of symptoms as may seem to implicate only the latter, as in the case related.

PECULIAR ACCIDENT IN A CASE OF INTUBATION.

BY NORTON L. WILSON, M.D., ELIZABETH, N. J.

Frank Reilly, age 3 years, came to my clinic at the Elizabeth General Hospital in September, 1894. Papilloma of the larynx was diagnosed, but owing to the smallness of the larynx it was found impossible to remove it through the mouth. The growth sprang from the right side of the larynx, just below the vocal band, and with forcible expiration could be thrown up between the bands. It grew rapidly, and tracheotomy was performed. The patient did badly under chloroform, but some days after this operation the remaining rings of the trachea and lower half of the larynx were split and the growth removed. This afforded only temporary relief; and several months after the first operation it was repeated, this time more thoroughly, but again the growth grew rapidly. An intubation tube was introduced for the purpose of making pressure. This was coughed out in a few hours, and I then resorted to the alcohol spray, which was faithfully used for four months; not finding the good result mentioned by Dr. Delavan, I again

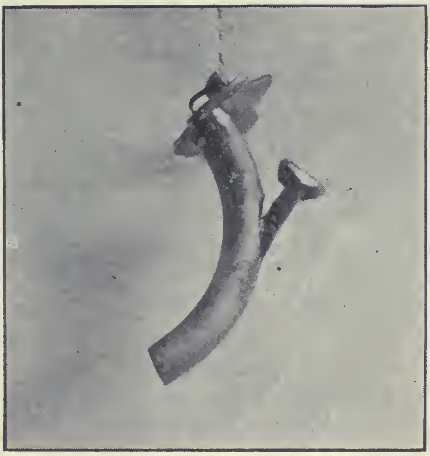

FIGURE 1. Intubation Tube in a Tracheal Tube.

introduced the intubation tube, using the 5–7 year old size. The boy is now 5 years old and it was my desire to introduce the largest tube possible. The tube was introduced after some little difficulty, and the head rested upon the vocal bands and apparently filled the larynx very well. The first time the nurse removed the inner tube of the tracheal tube (for that was allowed to remain) the laryngeal tube fell into the fenestra of the tracheal tube. You will observe from the cut that the intubation tube turned within the larynx so as to accommodate itself to the opening in the tracheal tube. It became so thoroughly engaged that it was impossible to extract it through the mouth. The upper end of the tube could not be felt in the larynx with the finger, but the extractor would slip down between the vocal bands and could be plainly felt to strike the metal tube. It could also be felt by the finger in the œsophagus through the muscular walls of the trachea. Fortunately the patient did not suffer much from dyspnœa; but the tubes were becoming foul, and I determined to remove them through the trachea. The ring below the tracheal tube was split and two above it, and with but little difficulty the tubes were removed just as you see them in the cut. My only reason for reporting this case is as a warning to others who may not be so fortunate in having the patient survive. My only explanation of the tube dropping down is that the continuity of the lower part of the larynx was destroyed by the previous operation, and thus allowed the tube to slip down. The patient is still wearing a tracheotomy tube and still has the papilloma. I would be thankful to the profession if they can suggest any means to rid the boy of his tumor.

CASE OF LARGE PAPILLOMA, WITH OBSTINATE HYSTERICAL APHONIA.

BY A. B. FARNHAM, M.D., MILWAUKEE.

On March 2, 1894, N. B., nearly 14 years of age, consulted me. Family history showed father and mother died of phthisis. When ten years and six months old she had measles, on recovery from which she noticed a slight hoarseness. This rapidly increased, and in three weeks she could talk only in a whisper. Difficulty in breathing began later, and gradually increased until in November, 1893, respiration had become somewhat difficult. Her general appearance was anemic in the extreme; weight 45 lbs.; glands of neck enlarged, notably on the left side, head drawn to that side; breathing stridulous.

Mirror showed swollen arytenoids and an appearance like extensive ulceration between the swollen membranes. Unfavorable prognosis given. Immediately lanced the swollen tissues on the left side, with slight but instant relief. Next day lanced the right side, and then could see that there was a large growth of some kind apparently filling up the whole larynx. Removed with Mackenzie's forceps quite a mass of papillomatous growth. The blood running into the trachea caused me to suspend the operation. At the next sitting used my pharyngeal finger-nail and scooped out all I could reach. The fragments secured filled a drachm vial. The stump was treated with chromic acid fused on point of small applicator. The attachment was on under surface of left cord at anterior commissure.

Her breathing became normal, her cords perfect in action; but six weeks of treatment did not enable her to talk out loud, although she gained rapidly in flesh, became rosy-cheeked, active and vivacious. For a time I heard from her directly—no improvement in voice. Five months after, through a letter written to a nurse, I learned that while with a chorus of many children she found herself making as much noise as any of them. This was afterwards corroborated by the physician, who reported this year that she had no further trouble.

I report the case for what interest it may have. The using of the finger-nail and clearing the growth to the stump was a great satisfaction.

DR. THORNER'S MASTOID RETRACTOR.

BY CHAS. M. PAUL, M.D.

Resident Physician Cincinnati City Hospital.

During the last eighteen months a new retractor, devised by Dr. M. Thorner, of Cincinnati, has been used in all mastoid operations performed at this hospital. This retractor is a small, flat S-shaped instrument of steel or German silver, about one-and-three-quarters of an inch long, and about five-eighths of an inch broad. It presents a smooth, round, blunt ending at one extremity, and at the other is shaped into a three or four-pronged hook. (Fig. 1.) That used ordinarily is this three-pronged retractor; but at times a special four-pronged anterior retractor is required. This is not only larger, but has also an important modification, inasmuch as that portion of the shaft bearing the four prongs is about one inch distant from the main body of the instrument, and is also considerably broader, as shown in Figure 2.* This special hook is used in all such cases where there is a large amount of tissue, together with the auricle, to be retracted anteriorly, as happens often because of great infiltration, or in the course of the so-called radical mastoid operation, when the auricle, together with the detached membranous auditory canal, are to be kept out of the field of operation. The prolonged shaft of this instrument, with its four prongs, dives into the depths back of the detached auricle, and readily takes a good and deep hold.

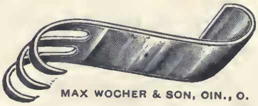

FIGURE 1.

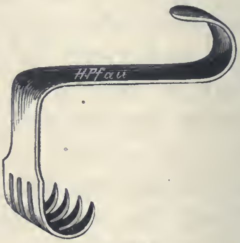

FIGURE 2.

The instrument is used as follows: The incision having been made, the periosteum divided and turned back with a raspatory, the prongs of the retractors are inserted under the edge of the periosteum anteriorly and posteriorly (Fig. 3). Over the blunt end of the anterior retractor a strip of sterilized gauze or a narrow roller-bandage is now thrown, and the double strand carried across the forehead and around the head, and finally across the blunt end of the posterior retractor, where they are finally tied so as to fully retract the margins of the wound. Of late Dr. Thorner has occasionally applied the gauze strip across the root of the nose, but much oftener just below the nose, across the upper lip (Fig. 4), as in many, perhaps in the majority of cases, the conditions are more favorable to applying the retractors in this manner. In fact, this is one of the many advantages of this instrument: that the relative position of the retractors may be readily adapted to the individual conditions of the case, and, if occasion should require it, be changed at any time during the operation.

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* The angle at which this four-pronged end is joined to the main body is in the latest pattern much more rounded than shown in the cut; it is about one-eighth of a circle.

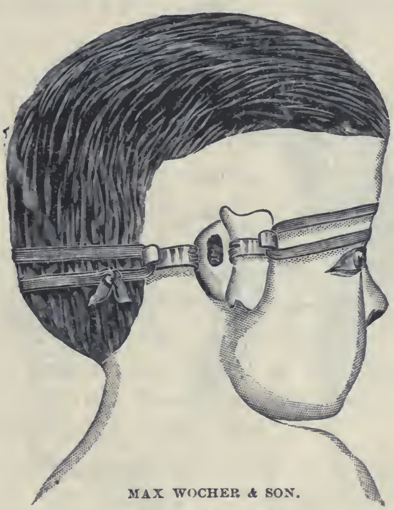
MAX WOCHER & SON.

FIGURE 3.

Other advantages of this useful appliance are the following:

1st. It holds the wound-margins apart more perfectly than can be done by any assistant. In all movements of the patient's head, whether made involuntarily by the patient himself, or in those made necessary by the operative procedure, the margins are held firmly and constantly apart. The hands of an assistant may become tired during these necessarily long operations and lose their hold; or a sudden movement of the patient's head, or a movement of the assistant himself, displaces the instrument held by him. The *largest* surface possible is thus *constantly* exposed to the manipulations of the operator.

2nd. It lessens the number of assistants required; sometimes the surgeon is not in the position to have a number of trained assistants at his disposal. But even then their work is rendered much easier if they need pay little or no attention to the retractors, and can devote all their attention to the other details. A most important point, however, is the fact that the small amount of room makes of necessity too many hands a source of annoyance and delay to the operator. Thus these retractors give to the operator the additional advantage of both light and room.

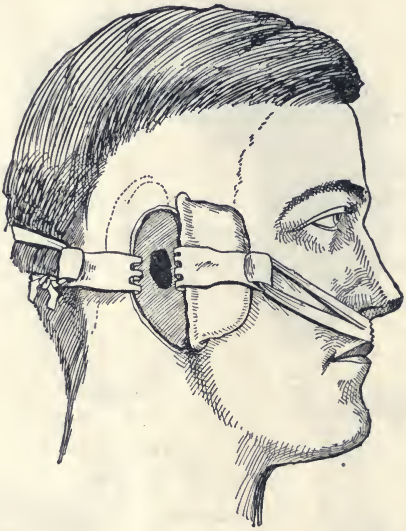

FIGURE 4.

3rd. The retractors have a remarkable hemostatic effect, by completely controlling the oozing from the margins of the wound as soon as they are placed and the gauze strip is tightened up.

In conclusion, it may be said that the sharp prongs and their peculiar curve give them an absolutely secure hold. Should, however, a case require it, or whenever the operator prefers blunt retractors, the instrument may be readily reversed, and the blunt ends be used instead of the sharp hooks. If at any time the wound should need enlarging, or the gauze strip should become loosened, it can be tightened up in an instant by either being hooked upon the small finger of one of the assistants, or by placing a piece of rolled gauze between it and the head at any place where it is out of the way. These retractors can be sterilized, and are cheaper on account of their simple construction. And, finally, they can be and have been used in other surgical operations.

HAY FEVER; THE BEST TREATMENT FOR STAY-AT-HOMES.

BY WILLIAM CHEATHAM, M.D.

Professor of Ophthalmology, Otology and Laryngology in the Louisville Medical College, etc., etc., Louisville, Kentucky.

"Hay Fever," as a name for the affection with which it is associated, is, we all recognize, a very defective one. I use it because I know of no better.

In the few remarks I propose to make upon this affection, I suppose all local causes of nasal stenosis and irritation to have been removed.

The cases I report will be mostly those that have been under my observation for one or more seasons, unable for different reasons to visit the usual resorts of "hay fever" sufferers, and who have had all forms of treatment with no permanent relief.

Mrs. H., married, housekeeper, age twenty-four years, no children, has had "hay fever" for six years. This is the third year I have treated her. The trouble began this year as usual, August 15th. I saw her August 17th. The nasal symptoms were well advanced, and the eye symptoms just beginning. As in the two previous years, in which she has been under my observation, I gave her syrup hypophosphites early in the summer. I gave her August 17th a small capsule of valerianic ether to prevent any ill effects from the cocaine solution with which I sprayed her nose. The cocaine, of course, shrinks all engorged tissue, and produces local anesthesia. I then twisted on a slender nasal applicator some absorbent cotton, and dipped it into a 50% solution of chromic acid; this I applied the full length of both inferior turbinal bones, the lower half of the middle turbinals, and the lower two-thirds of each side of the septum. In two or three minutes I washed the nostrils well with an alkaline solution, and sprayed them with a mixture of eucalyptol, camphor, cocaine (alkaloid), and vaseline. I gave her a wash to use so long as the secretion was excessive, containing aqua eucalyptol, aqua camphor, and distilled extract hamamelis, equal parts; under this treatment the symptoms were much worse that day, but better the next. This treatment occasionally has to be repeated once, very occasionally twice, during the season. I afterwards gave Mrs. H. valerianate zinc and extract nux vomica.

This treatment usually prevents the asthma and cough. Should the latter cause much trouble, I find nothing proves so harmless and so effective as codeine phosphate. So far this year she is quite comfortable.

Mr. G., railroad manager, had his first attack September, 1894. This year it began August 10th. I saw him first August 14th, 1896. His general health seems to be good. I found him suffering very much, unable to attend to his business, could not sleep at all, nose completely occluded, no asthma or cough, but his eyes disturb him very much. After cocainizing his nose thoroughly, I found no hypertrophied tissue, but the nose very narrow and the turbinal bones very small. I made an application of a 25% solution of chromic acid and washed it out well in a few minutes with an alkali; then used the vaseline mixture in a spray. I gave him the same wash Mrs. H. is using, giving him also zinc phosphide and extract nux vomica internally. He reported next day much improved; had slept well. This improvement continued until Friday, August 21st, when he reported with an exacerbation; another application of the acid was made, since when he has been quite comfortable, attending his business without trouble. His eye symptoms persisted a few days, when I gave him acid boric, ʒii, aqua camphor and aqua rosa, *aa* ℥iii, distilled extract hammamelis q. s. ℥viii, as an eye bath; he used it in a glass eye bath four times a day and soon got relief. He complained of little or no discomfort from the acid.

Mr. G., a contractor, has had the above treatment for four years, with entire relief. Before I began treating him he had to leave the State every summer. I removed some hypertrophies from both nostrils and a ridge of bone the first year I treated him. Mr. G. works in a great deal of dust. He commences early in the spring, as he has mild "rose fever," on the zinc phosphide and extract nux vomica, and the wash of eucalyptol, hamamelis and aqua camphor. The acid application gives him one day of discomfort, after which he returns to his work in dust and dirt with no discomfort. He uses the eye bath also.

Mrs. H., married, weighs 253 pounds; has a baby about once a year; has asthma about one-half of the year; has violent exacerbations which can be relieved by weak chromic acid applications to the nose, and phosphate of codeine internally. During "hay fever" season Mrs. H. has one and sometimes two applications of the chromic acid, which give her great comfort. She uses the wash previously mentioned and valerianate of zinc; this latter I have been using in these cases for some years, with great benefit, I think; I sometimes give the three valerianates.

So far this season I have had but one patient, a Sister of Mercy, who has not gotten relief from the treatment given above. She came in late in the season, with asthma and a bad cough. I had never treated her before. Her nose is exceedingly contracted; healthy turbinals nearly produce total stenosis. With the slightest engorgement she cannot breathe through her nose at all. Cocaine will not reduce this engorgement now. I refer to the case as one impossible to relieve without the aid of surgery.

Only Sunday last—September 6, 1896—Mr. G., a merchant, who has just returned from a trip to Alaska, came to see me with an attack of "hay fever." This is the third year I have treated him. I made the chromic acid application, and have seen him twice since; he is much improved. It has always relieved him before.

September 1, 1896, Mr. S., of Augusta, Ga., called to see me, suffering intensely with "hay fever." I never saw a man more uncomfortable. No asthma, but head symptoms well marked. He has had "hay fever" for fifteen years. I gave him the usual treatment, and that same day he was called to New York on business. For four days and nights he was so uncomfortable he could neither eat nor sleep. He stopped all treatment, both local and internal. From a description of his symptoms he afterwards wrote me, he must have had mild sepsis. After the fourth day he began to eat. An extract from his letter, given below, shows the progress of his case from that date. His right nostril is nearly completely occluded by a deviated septum. I advised a correction of this.

Mr. S. writes September 9th as follows:

"I have not sneezed as many as half a dozen times in any one day. I have no itching sensation in the eyes, ears or nostrils, and I sleep at night without discomfort, and as a healthy man should do. I breathe freely through both nostrils; the discharge of clotted blood and mucus has greatly diminished, and the bleeding of the right nostril has almost entirely ceased. Ordinarily, this is the time that the fever is reaching its climax. I do not know whether it is coming back or not. It almost passes belief that I am free of it at this time."

For the asthma I have found ten or fifteen grains of bromide or salicylate of quinine at bedtime gives great relief. Also glyceride of hydriotic acid is very good. When there is a gouty element urotropine is of service. Mixtures containing lobelia, the bromides and the iodides are of much service; of course when the asthma is very severe, morphia and atropia act very promptly.

To summarise then, for "hay fever" sufferers who have to stay at home, I believe greatly in constitutional treatment, such as the valerianates, the hypophosphites, zinc phosphite, anti-rheumatics, and in the correction of any gouty element.

Locally, the removal of all causes of nasal stenosis and irritation, with persistent cleansing with mild saline, acid and alkaline solutions. Just before, at the beginning, or in the midst of the season, I apply, as given above, chromic acid, and follow this with such medication as indicated in the body of this paper. But few of my patients have any discomfort, except for a few hours, from the treatment, which occasionally has to be repeated, and they are thus enabled to stay at home and attend to business with very little or no comfort. The chromic acid, as in Mr. S.'s case, sometimes gives great discomfort. Much of his discomfort, though, came from his neglect of treatment. Even with this four or five days of discomfort the result of the treatment more than counterbalances the many uncomfortable days of the "hay fever" sufferer, if a stay-at-home.

CORRESPONDENCE.

DENVER, COLO., Sept. 11th, 1896.

Editors The LARYNGOSCOPE:

Sirs—I feel that I have been taking up considerable space in your journal of late, but I want just a little more in which to reply to Dr. S. M. Payne, of New York, who has seen fit to criticise my motor nasal saw in your last issue.

I would state that while I may not have investigated all the saws on the market I have thoroughly tried Dr. Payne's.

I would like to ask Dr. Payne to drop into Tiemann's some day and ask to look at a Bosworth saw. The teeth of a Bosworth blade are not set forward, as Dr. Payne suggests, but they are set straight out from the edge of the blade and do not cut more when "pushing" the saw forward than when drawing it backward; therefore there is no tendency for the saw to hang or bend when in use. I can not say as much for Dr. Payne's saw, for I have given it many thorough trials, and I have always found that it hangs when drawn towards the operator. Of course it works perfectly easily when it is being pushed away from one, but when it is being drawn back it requires considerable effort, sufficient to pull the patient's head forward several inches. I have never had this to contend with when using the Bosworth saw. It has always run perfectly smooth in my hands.

As to Dr. Payne's criticism of my motor nasal saw, I would say that he has been theorizing, and does not speak advisedly. He says, "When the Bosworth saw is applied to the electric motor the danger of bending, hanging, and breaking is increased beyond estimation. I consider the electric motor with the above saw extremely dangerous."

Even the doctor's theory is wrong. The motor nasal saw has a forward and back movement of several thousand times per second, with the length of the stroke only an eighth of an inch; therefore it is plainly in evidence, that with such a rapid movement, and with such a short stroke, it is impossible for it to "hang, break, or bend," and practically it does not "hang, break or bend," but runs as smoothly and as evenly as it is possible for anyone to wish, and at the same time removes the spur in one-fifth the time required by hand, and with much less annoyance to the patient. I would, in conclusion, ask Dr. Payne to try this motor saw of mine and convince himself, beyond question, as to its utility. G. MELVILLE BLACK, M.D.

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EDITORIAL.

TO THE SPECIALIST.

The Laryngoscope has now passed the experimental stage, and is an assured success. Generous responses have been received from all parts of the country, and the editors feel that they have the support of the profession in their undertaking.

We mail this number to all specialists whose names we have, and earnestly request them to aid in making The Laryngoscope the American exponent of their specialty. While there are still about two thousand who have not responded with their subscriptions, we feel sure that their interest has been awakened, and we earnestly request all such to fill out the blank on advertising page 9, and send it to this office. Help the undertaking along by sending your own subscription and by influencing your professional friends to subscribe for it.

LOOK BEFORE YOU LEAP.

The danger of rushing in where wise men refuse to tread is as proverbially true as a leap in the dark. Yet we who practice the special branches of medicine are almost daily examples of the violation of both proverbs. The danger of attempting to remove foreign bodies from the ear on hearsay evidence of playmates or friends, without verification by proper examination of the aural canal, has been strikingly brought home to me by cases which have come under my observation during my professional life. Some years ago a child was brought to me from a distant town, with the statement that she had put a glove-button in the ear, and that the local physicians had made vain efforts to remove it, and that they had only succeeded in removing some *tiny pebbles*, which the mother did not know were in the ear. An examination showed that the drum-membrane had been almost entirely removed, and with it the *ossicles*.

There was no trace of a button. It is a great question in my mind if a button was inserted in the canal. Here was a case in which a child's hearing was entirely destroyed by gross carelessness in neglecting to properly examine the part. Fancy anyone groping in the dark for three hours, as was done in this case! Yet there are those among the general profession who look with disfavor upon aurists as persons who perform some sort of incantation and ask a large fee. How much more honest it would be, and how much it would raise the profession in the eyes of the public, if when placed in charge of such a case as the one above narrated the physician, if he were not skilled in the use of the head-mirror, would say: "I do not understand this case; send for an aurist." Want of common honesty brings its own punishment, in the shape of loss of public support and confidence.

G. S. R.

THE PROFESSION AND THEIR JOURNALS.

Many professional men seem to grudgingly pay their subscriptions for their professional journals, yet never hesitate to pay promptly for their secular magazines or daily papers. Why this is so is hard to understand. Their college education, instruments, books and professional publications constitute their stock in trade or capital invested in their business, if it will be permitted to call the pursuit of their profession their business.

It is their duty to their clients and the community in which they reside, and it is to their own pecuniary interest to increase their invested capital as much as possible. How can this best be done? By investing in new and improved instruments and appliances, and by purchasing and reading the so-called standard works and by subscribing for as many good professional periodicals as possible.

The worth of a standard work, after it is read, is in its use as a book of reference. The object of the periodical is to give the reader the current thought of his profession, and its worth is measured by the extent of the field from which it draws its contents and the character of its contributors.

In our profession many object to paying from two to five dollars for a periodical because, they say, it costs too much, or there are not *enough* articles published in it that benefit them in their practice. If this man is conscientious in his desire to gain increased knowledge of his profession, either for the sake of knowledge itself or so that he can better palliate or eradicate the trouble for which his patient consults him, he should feel that his journal has paid him provided he only receives *one* practical thought or *one* hint during the course of the year that assists him in the better handling of a case, or mayhap to save a life. Will not his extra fee, not to mention other cases that will consult him on account of his success in this particular case, more than pay him for the investment made?

Put this proposition on a business basis: is it not the act of a shrewd business man to invest $5 in order to draw, perhaps, $100 in dividends.

Too few of the members of our profession take this into consideration.

SELECTIONS
FROM CURRENT MEDICAL PUBLICATIONS.

RHINOLOGICAL.

Sea Air and Diseases of the Nose.

M. Larraud (*Arch. Intern. de Lary.*, *Rhin. et d' Otol.*) claims that sea air is beneficial in all affections of the nose that are not acute.

Vaselin and Cocaine.

Dr. C. E. Sage (*Pharm. Jour.*) states as the result of experimentation that cocaine is not soluble in either vaselin or lard, but is found to be soluble in castor or olive oil.

Cosmoline as a Hæmostatic.

Dr. E. B. Gleason in an editorial in the *Atlantic Med. Weekly*, on Recurrent Nose Bleed and the Control of Nasal Hemorrhage, states that he considers fluid or solid cosmoline to be a better hæmostatic than any of the iron salts.

[It has been my practice to always spray the nasal cavity, after a bur or saw operation, with vaseline as hot as can be borne by the patient. No matter what the amount of hemorrhage, this has always promptly checked it.—EDITOR.]

The Relation of Chronic Disease of the Nose and Throat to Disorders of Digestion.

In giving due insight to the direct excitants in causing pharyngeal disease (Thorn R. French, M.D., Brooklyn, *N. Y. Med. Journal*, Sept. 12, 1896,) the writer nevertheless believes that the great majority of such sufferers are the subjects of some derangement of the gastro-intestinal tract. He attributes this to the American habit of hasty and irregular eating. In a considerable number of individuals examined by him, all but a very few had evidence of some pharyngeal trouble, associated with disturbed digestion of the stomach and intestines. He lays stress upon the importance of giving this portion of the economy deserving recognition in patients presenting themselves for local treatment. M. D. L.

Torticollis Due to Adenoids.

Dr. A. J. Gillette (*N. Y. Med. Jour.*) reports two cases of torticollis cured and one relieved by appropriate operation for the removal of existing adenoids.

Insanity and Headaches Due to Nasal Inflammation.

Dr. J. H. McCassy (*Cincin. Lancet-Clinic*) says that as a result of his observation in the examination of about eight hundred cases, several times a week, in the Kansas State Insane Asylum, he is convinced that hypertrophies, vaso-motor rhinitis, polypoids, deflections of the septum, chronic inflammation of the ethmoidal, frontal and maxillary sinuses, etc., are frequently the cause of headache, and in not a few cases of insanity.

Reflex Nasal Headache Occurring During Pregnancy.

Nasal headaches occurring during pregnancy, writes Dr. J. A. Mullen in the *Southwestern Medical and Surgical Reporter*, are peculiarly harrassing and painful. "These headaches are, as a rule, intense, occurring on one or both sides of the head, sometimes starting as a supra-orbital neuralgia, and at others as a temporal migraine, either of which finally spreading and involving all the branches of the fifth pair of nerves. They are fortunately not incessantly severe, but begin rather slowly and steadily, reaching a maximum any hour of the day or night, and lasting for a long or short period. They are generally ushered in by an acute coryza, and in my observation, without treatment, the acute cold rarely progresses beyond the stage of proliferation until the pregnancy is ended. They show very little disposition to terminate by resolution. Quite frequently there are associated symptoms of hay fever or asthma. The nasal mucous membrane is greatly engorged and softened, and the inflammatory appearance much less than the size of the swollen membrane would seem to indicate; in other words, the condition simulates an angioneurotic œdema in all but its clinical history. The nasal secretions are profuse, with occlusion of the nasal chambers, and as a result mouth-breathing is substituted for nasal-breathing. The secretions of the mouth and pharynx are likewise abundant. The headaches more commonly occur about the fifth month of pregnancy, but many attack the primipara or multipara at any time during her *enciente*."

Nasal Hypertrophy in its Relation to Ear Disease.

MacNaughton Jones (*Annales des mal. de l'Oreille*, vol. 22) concludes, as the result of long observation and careful investigation, that hypertrophies of the turbinates as etiological factors of deafness, present a smaller percentage than would appear probable at first. An examination of 300 cases of aural disease, revealed only 69 hypertrophies of the turbinates and 18 deviations of the septum; in only 25 per cent. of the cases, therefore, can nasal obstruction be regarded as causing deafness. He lays stress on the too frequent and too severe treatment directed toward hypertrophy of the turbinated bodies for the relief of deafness, and cautions against too free an application of the cautery and snare in the consequent turbinatomy.

Suppuration of the Maxillary Sinuses Consecutive to Deflection of the Nasal Septum.

In the *Rev. Internat. de Rhin., Otol., et Laryng.*, Dr. Augieras details a case of suppuration of the right antrum of Highmore in a man forty years of age, the septum of the nose being strongly deflected to the left side. This inflammation of the maxillary sinus, after existing for many years, had given rise to alveolo-dental periostitis.

Acute Empyema of the Antrum of Highmore: The Question of Self-healing.

During the last few years the literature of chronic empyema of the antrum of Highmore has been exhaustive and profuse, but little has been said upon the subject of acute empyema; yet this form must be the more frequent of the two. Most of the cases, however, doubtless remain undiagnosed, both by reason of insufficient familiarity with the symptoms on the part of the profession, and also on account of negligence of patients who, unless the disease is very severe, let it pass as an ordinary acute cold in the head. Dr. Avellis, Frankfort-on-the-Rhine (*Archiv für Laryngol. und Rhinol.*, bd. iv, heft 2), describes two grades of acute empyema—the light and the severe form. In a case exemplifying the former variety the patient was examined fourteen days after having contracted a severe cold, great occlusion of the nostrils having developed six days after exposure. On examination a streak of pus could be seen crossing the median line of the septum above the inferior turbinated body; and upon washing out the antrum through a perforation made in the inferior meatus, pus was obtained. There was no pain in the region of the antrum—only an uncomfortable pressure in the nose. The patient recovered spontaneously in the course of from two to three months. In this case influenza seemed to bear no etiological relation to the empyema, although influenza is a common cause of acute inflammation of the antrum. The characteristic symptoms of the light form include pain upon pressure and a sense of tension within the upper jaw, and an irregular, purulent, oftentimes bloody discharge. The pain is intensified by sudden movements of the head, cough, etc. Ofttimes there arise slight edematous swellings of the cheek and eyelid; sometimes the edematous part is reddened. Supra-orbital pain is rare. A foul odor may or may not be present.

The severe form of the disease presents all of these symptoms, and in addition others of greater gravity, as related in the case of a patient, a physician, who became ill with influenza, suffering from dizziness, vomiting, loss of appetite, cold in the head, headache, and backache. Six days later he had a severe pain in the left upper jaw, which was transmitted to the top of the nose and to the forehead, and which gradually increased until the patient was confined to bed. There was tenderness on pressure over the antrum and upon the ball of the eye, with the sense of smell suspended, and a profuse discharge of pus. The temperature varied in the evening from 101° to 102°. The author calls special attention to the edematous swelling of the cheek and of the eyelid, which varies in extent, but is to some degree nearly always present, and which is a valuable diagnostic sign. A few days later the patient became delirious and his speech incoherent, the end of a sentence being frequently forgotten. The examination was made about two weeks from the beginning of the affection. Both sides then seemed to be involved, and the diagnosis was rendered certain by a puncture through the inferior meatus upon both sides, when pus was obtained by syringing. There followed immediately thereafter mitigation of the symptoms, and in the course of a few weeks the patient had entirely recovered. One antrum was washed out several times, the other once only. In this severe case the evacuation of the pus seemed necessary to recovery. In the lighter forms of the disease, although the author has usually washed out a single time for diagnostic purposes, he thinks recovery will take place spontaneously. In his observation, only one case in ten assumes the chronic form.—*Medicine.*

Antidiphtheritic Serum in Ozena.

Cozzolino (*Gaz. degli Ospitali; British Med. Jour.*), in a clinical lecture on this subject, speaks strongly against the supposed cures of ozena by means of serotherapy (that is, by the use of antidiphtheritic serum). He believes that the part played by microbes in this disease as distinguished from pseudo ozena is much less than certain writers would have us believe. On the other hand, the condition of the nasal mucous membrane is all-important, and the author's treatment is directed toward this, and not to any microbic agency. If the soil is healthy, microbes do no harm. The only radical treatment, in the author's opinion, is surgical, and should be directed toward the production of a "sclerogenous" condition; that is, the diseased parts should be freely scraped and scarified, as one would treat a lupus, so as to produce a healthy scar surface.

Icthyol in the Treatment of Ozena.

Our Vienna confreres (*Sémaine Med.*, August, 1896) have been very successful recently in the treatment of ozena with icthyol. It is claimed that the fetid, offensive breath can be more rapidly and completely removed by icthyol than with any other known remedy. After first cleansing thoroughly with some alkaline solution to remove the crusts and inspissated mucus, the nasal cavities are flushed with a 2 to 5 per cent. aqueous solotion of ichthyol, taking all precautions to avoid the disagreeable features of the nasal douche. A cotton applicator, supplied with a 25 to 30 per cent. solution of icthyol, is then applied to the mucous membrane of the affected areas, both anterior and posterior nares being thoroughly swabbed. It has also been recommended in the treatment of pharyngitis siccus.

Eczema at the Nasal Entrance, in Children.

Vohsen (*Memorabilien*) recommends the application of borolanoline after cleansing the nose.

Treatment of Hay-Fever.

W. W. Bulette, in the *Medical Fortnightly*, Sept., 1896, calls attention to the fact that in a disease presenting such a variety of symptoms it is impossible to lay down fixed rules for treatment, but each case must be managed on its own merits. The first important step is careful regulation of the diet, a mixed one being preferred, in which neither the nitrogenous nor carbo-hydrate elements predominate; all excesses are to be held in abeyance; alcoholic stimulants absolutely forbidden, and often a change of occupation is to be recommended.

The morbid lesions of the nasal cavities should next receive attention, whether it be a deflected septum, exostosis, enchondrosis, polypus or hypertrophy and vascular turgescence of the turbinated bodies; in young patients adenoid vegetation and enlarged tonsils should not be overlooked.

To achieve the best results, treatment should begin from six to eight weeks before an expected attack. B. does not believe it good surgery to perform a radical operation in the nares during the exacerbation of this affection, as the proper conditions for good surgical repair are wanting when engorgement is so great. If the case comes under observation during the attack, we can only palliate the trouble.

Trichlor-acetic-acid or the galvano-cautery have often proven of great benefit. Deep cauterization and wholesale destruction of the mucous membrane cannot be too strongly condemned. In the majority of cases the posterior two-thirds of the inferior turbinals and the septum are the most sensitive areas, and failure often results from local applications simply because these areas are not reached.

In addition to alkaline sprays for cleansing, the author recommends various astringents by atomizer or nebulizer. Internally, conium hydrobromate gr. $\frac{1}{4}$, ammon-chlorid gr. $\frac{1}{2}$, pulv. opii, extr. belladonn. and extr. aconit., of each gr. $\frac{1}{10}$, given every two or three hours, will often allay the irritability of the nasal passages and stop excessive secretion.

The indiscriminate use of cocaine sprays is emphatically condemned. Certain it is that we cannot eliminate to any extent the third factor in the causation of the affection, namely: mechanical irritants in the atmosphere. We can, however, build up the nervous system, place the respiratory mucous membrane in a healthy condition, thus rendering the individual less vulnerable, and prevent susceptibility to the action of the irritants in the atmosphere.

Hay Fever Acid Solution.

Dr. W. F. Strangway uses:

℞.	Acid Acetic	♏ij.
	Sodium Chlor	grs. iv.
	Resorcin	grs. iiss.
	Aqua	℥j.

Sig. M. Use as a douche.

In addition he gives internally one to two drachms hydrochloric acid daily.

Diffuse Papillomatous Degeneration of the Nasal Mucous Membrane.

Though of not frequent occurrence, instances of this affection are at times observed (G. Hunter Mackenzie, M.D., Edinburgh, *The Lancet*, 3807). In this case the patient, a male, 30 years of age, gave an alcoholic history, but no syphilis. The mucous membrane of both nostrils was covered throughout by numerous sessile growths, varying in size from a pin's head to a grain of rice. They were most abundant in the upper regions (roof, outer wall, and septum). The inferior portion of the nose was also affected. They were removed with the cold snare and nasal curette, and showed no recurrence after an interim of four months. The microscopic examination revealed true papillomatous degeneration. M. D. L.

The Sequelæ of Syphilis, etc.

In a report of a case seen by the author (Dr. Chas. H. Knight), difficulty of arriving at a correct diagnosis is vividly portrayed. The patient was a young girl, 15 years of age, who presented herself for treatment on account of epiphora. The nasal duct was found obstructed at its nasal orifice by an enormous enlargement of the right inferior turbinated body, which completely occluded the nostril and was adherent to the septum. The mass was removed with snare, but rapidly resumed its original size. Malignancy was suspected, and a microscopical report, a second examination, said it was a small round-celled sarcoma. A surgeon was consulted, and he recommended excision of the upper jaw. Ten days later a sensitive swelling on her left shin was discovered and the patient was put upon the mixed treatment in ascending doses. Within two weeks the swelling, together with the nasal tumor, had entirely disappeared. The author justly remarks, that the case narrowly escaped going on record as one of sarcoma cured by excision of the upper jaw. Such experience impresses us with the importance of placing all similar cases upon mixed treatment before attempting surgical interference.

In the treatment of saddle nose, the "Martin" bridge is mentioned as being of service to correct the deformity. It is made of platinum, with lateral arms to be imbedded in the superior maxillary bones. The length and shape of the bridge must be adapted to each case. Dr. Hopkins has modified same by making it out of a single piece of metal. It is placed in position through a Rouge incision. Care must be taken not to allow too much pressure upon the bridge, otherwise ulceration and perforation of the soft parts will occur, as happened in one of the author's cases. An "armless" bridge is also of service, in cases where the only partial destruction of the cartilage has resulted. These may be introduced through a median incision over the dorsum of the nose.

M. D. L.

LARYNGOLOGICAL.

The Nerves of Taste.

L. von Frankl-Hochwart (*Wiener klin. Wochenschrift; International Med. Magazine*) says the lingual nerve supplies fibres for the sense of taste to the anterior two-thirds of the tongue; these pass entirely or for the greater part into the chorda tympani. Clinical observation of processes situated at the base of the brain proves that these fibres enter the fifth nerve; resection of the Gasserian ganglion very often causes ageusia in the anterior portion of the tongue. It is not known whether these fibres of taste are to be found in the second or third branch of the fifth nerve, and the mode of connection with the facial and chorda tympani is unknown. The glosso-pharyngeus is generally recognized as the nerve of taste to the posterior third of the tongue. In some individuals, however, total destruction of the trigeminal nerve by basal growths, trauma or resection does not interfere with the sense of taste, and probably the glosso-pharyngeus supplies in these cases the entire tongue with taste fibres. Although repeated clinical observation of cases in which the ninth nerve was destroyed has shown alteration of taste only at the posterior part of the tongue, Popl, in his case of compression of the left glosso-pharyngeus by an aneurism, as demonstrated by the autopsy, without involvement of the fifth, was able to observe considerable disturbance of taste in the anterior part of the tongue as well as total ageusia over the left posterior position.

Disinfection of Sputa.

Dr. E. F. Woods, of Janesville, Wis., read a paper before the Wisconsin Medical Society (*Charlotte Med. Jour.*).

In the report of the Commission appointed by the Congress of Tuberculosis, read before the Academy of Medicine at Paris, July, 1889, we find the following:

"Of all the agents of transmission of tuberculosis, the sputa is the most formidable. There is danger to the public in discharging the sputa upon the earth, carpets, hangings, curtains, napkins, handkerchiefs, clothes and coverings. Not dangerous while moist, it becomes when dried the chief means of the spread of the disease.

"How can we prevent this? One of the eastern States has tried to solve the question by legislative means, prohibiting all spitting upon the floor of public conveyances and places of resort.

"This is a move in the right direction, but one difficult to carry out. Besides it only touches part of the question. Spitting upon the earth, etc., remains.

"The one thing we can do, as physicians, is to use all our influence and authority over tuberculous patients.

"Sick people are selfish and care little for the welfare of others. But we may use as a potent argument the danger of self-inoculation. An individual well on the road to recovery, unless he takes care of the sputa, greatly diminishes his chances of recovery.

"We must persuade him, when at home, to use a cuspidor in which it is well to keep a solution of bichloride; this should be emptied daily into the fire, and then well washed out with boiling water.

"In these days of steam heat, gas stoves, etc., this often becomes difficult, and if obliged to empty into sewers be sure a solution of bichloride is always used.

"Never empty upon dust-heaps, into the garden or latrines, where it may become a source of infection to animals as well as man.

' When away from home, he should carry a small spit-cup containing a slip of absorbent cotton or gauze wet with bichloride solution, to be emptied as often as possible.

"Warn him, and also his relatives and friends, especially of the danger of spitting into handkerchiefs.

"Sometimes, when the patient has reached the latter stage of the disease and is confined to bed, the exertion of moving to spit into cuspidors, etc., causes pain or severe attacks of coughing. In such cases I have found it very convenient to keep a pad of toilet paper at hand and allow the patient to spit into pieces of this, dropping them afterwards into the cuspidor containing the bichloride solution.

"Legislation cannot accomplish what we wish; the influence or authority of the physician often is of no avail, and we may eventually be obliged to quarantine—reporting cases of tuberculosis as we do of diphtheria.

"This would be unnecessary if we could only arouse the general public to a sense of its danger and have its assistance and influence to aid the physician."

Laryngeal Vertigo.

Knight (*Int. Med. Mag.*, June, 1896) thinks that "laryngeal vertigo" (Charcot), "spasm of the glottis" (Kinshaber and McBride), and "laryngeal epilepsy" (Gray) are unfortunate names to apply to these cases, as in most of them there is no true vertigo and no evidence of glottic spasm, and may present no evidence of epilepsy. The factors concerned in producing the condition are different in different cases, so that a satisfactory name is difficult. Taking a comprehensive view of the recorded cases, we find that the cerebral condition can sometimes be described as syncope, which has been produced by disturbed cerebral circulation, such as we have from long-continued breathing, and sometimes it can better be described as an exhibition of "*le petit mal.*" In some cases there is not the slightest evidence of epilepsy, and in others we find convulsive movements of the limbs, head, face, and in a few cases mental confusion after the attack. We find, also, that there is a predisposition to syncope or "le petit mal" in these cases, as shown from their occurrences from other than laryngeal causes. Again, the exciting causes are various, and we may have only to do with excitation originating at the glottis; this may be due to different conditions, organic or functional. He calls attention to Sommerbrodt's case, which was cured of epilepsy by the removal of a pediculated polyp of the larynx. Spasm of the glottis, or the rapid succession of the closures of the vocal cords in coughing, may produce loss of consciousness by disturbance of the cerebral circulation. The author relates the case of a man aged 54, who took cold the latter part of September, and had a cough to November; when he saw him the patient had had a dozen attacks of loss of consciousness after fits of coughing, none of the spells of coughing being severe; one of the attacks was not preceded by cough. At times he had twitching of the face and limbs without loss of consciousness. Examination: nothing marked in the larynx. Moist rales at base of left lung; pulse 80; very weak; first sound of heart also weak, suggesting degenerative disease. He thinks that attacks in this case were due to syncope from a weak heart, which any disturbance like coughing might bring on, though the muscular twitching suggested nervous irritability also. The points to which he invites attention are: 1. That cases of loss of consciousness after cough are not all produced in the same way. 2. That the cerebral condition may be due to syncope or *le petit mal.* 3. That there is a general predisposition to one or the other of these conditions. 4. That the exciting causes are various, sometimes organic or functional. W. S.

Intratracheal Medication.

Dr. J. L. Barton, in an article in the *Med. Record*, reports having treated twenty-five cases by intratracheal injections, including cases of severe laryngo-tracheitis, bronchitis, and tuberculosis, and one case of asthma. He cites as the advantages of this form of medication:

"1. The remedy is applied directly to the irritated mucous surface.

"2. It immediately alleviates the most distressing symptoms, adding at once to the comfort of the patient.

"3. In a certain number of cases the antiseptic effect of the medicine is very pronounced, as shown by the longer interval between the febrile attacks and by their lessened intensity, when they do occur.

"4. The tracheal and bronchial mucous membrane rapidly absorbs the medication, so that we may expect a general as well as a local effect.

"5. We avoid disturbing the patient's stomach with nauseating doses and the shattering of his nervous system with opiates.

"6. This method of alleviating the most distressing and annoying symptoms does not interfere in the slightest degree with any other line of general treatment which may be deemed advisable.

"7. In cases characterized by an atrophic condition of the tracheal mucous membrane or of pulmonary disease with cavitation leading to retention and decomposition of the secretions, intrabronchial injection will remove the disgusting fetor of the breath consequent upon this condition."

The remedies employed should be soothing and the vehicle non-irritating, the preferable vehicles being the petroleum oils.

From one-half to one drachm may be injected at each insertion of the tube, and this may be repeated at one sitting until from two to four drachms have been used.

Hypnotism in the Cure of Stammering.

Thomas B. Keyes, in the *Columbus Medical Journal*, reports his success with hypnotic suggestion in the treatment of severe cases, after methods of exercise, breathing, elocution, etc., had been tried to no purpose. "Though it would be difficult to trace the exact details through which the cure is effected, it is probable that in these cases it was brought about more particularly by suggestions made with a view of giving to the patient confidence in his ability to talk without stammering, though by hypnotism an influence may be exerted upon any organ or part of the body."

Pyoctanin in the Treatment of Diphtheria.

In a number of collected articles by Dr. C. Höring, of Stuttgart, originally published in Betz's *Memorabilien* (*Deutsche Medizinal-Zeitung*, August 10, 1896), the author speaks enthusiastically of the local employment of blue pyoctanin in cases of pharyngeal diphtheria. It should be applied several times a day. He would use the antitoxine serum in severe cases, but not to the exclusion of this local treatment.—*N. Y. Med. Journal.*

Complications and Sequelæ of Diphtheria.

The complications are those of extension to or ulceration of the respiratory tract and involvement of other regions from toxin poisoning (*The Journal of the Am. Med. Assn.*, Aug. 1, 1896; *Albany Med. Annals*). Locally there is hemorrhage, due to ulceration, from the nose, throat and bronchi; occasionally petechial hemorrhages under the skin and other skin rashes, especially erythema, appear. By extension of the process or by inhalation of particles of membrane, acute bronchitis, more especially capillary bronchitis, or broncho-pneumonia with atelectasis or gangrene, may develop. Kidney symptoms are common, albuminuria is present in severe attacks;

occasionally suppression of urine is present, and, rarely, dropsy develops later. Heart failure or fatal syncope may occur at any time during the attack or after convalescence, in from 10 to 15 per cent. of cases. One of the most common is that of the velum palati. Sometimes the eye is involved and strabismus, ptosis or loss of accommodation may result. Facial paralysis sometimes occurs. One of the limbs may be involved. Occasionally multiple neuritis develops. W. S.

Delayed Paralysis after the Use of the Antidiphtheritic Serum.

Filiatre, in the *Gazette Hebd. de Med. et de Chir.*, has reported the case of a child three years old, presenting symptoms of laryngeal obstruction, which proved on bacteriologic examination to be of diphtheritic origin (*The Journal of the Am. Med. Assn.*, August 22, 1896). An injection of 15 c.c. of antitoxic serum was at once made into the right flank, and forty-eight hours later a second injection of 10 c.c. into the left flank. In the course of twelve hours the false membrane had completely disappeared, the child breathed easier, the pulse was normal, the fever had disappeared, and only the submaxillary adenopathy remained. The child continued well for more than a month, when it was observed to speak through the nose. A day later speech was almost unintelligible, and saliva dribbled from the mouth. In the course of several days more the head could not be held up, the chin falling upon the chest. Deglutition also became difficult. The knee-jerks, as well as the pupillary reflexes, were preserved. Sensibility was intact. The muscles especially enfeebled were the extensors of the neck, the rotators of the head, excepting in the sterno-mastoid, the supraspinous and the elevators and abductors of the scapulæ. The facial muscles also were largely affected, as well as the recti abdominis. Under electric treatment improvement rapidly set in, and soon proceeded to final recovery. W. S.

Varicella of the Larynx.

Two cases of this rare affection are recorded by M. Marfan and T. Halle (*Revue mens. des malad. de l'enfance, Med. News*), one a boy of three years, at first thought to be diphtheria, in which case recovery took place; the other a child of nine months, which ended fatally. Stenosis of the larynx in varicella may at times be confounded with diphtheria. A bacteriological examination will serve to distinguish between the two.

On Bony Growths Invading the Tonsils.

Dr. Alex. W. Stirling reports three interesting cases of bony growth invading the tonsils (*Atlanta Med. and Surg. Jour.*). In the first case, the young lady had been troubled for years by an enlarged and occasionally painful right tonsil, which had been treated by a number of physicians. On examination with the finger a hard, immovable substance could be felt, which appeared to come from behind the tonsil forward and underneath it to the level of its anterior surface, but forming practically a part of it. Its point is rounding, apparently about an eighth of an inch, but becoming broader and somewhat flattened laterally as it goes outward, backward and slightly upwards. The finger pressed in front of it enters an angle formed by it and the inferior maxilla, and when pressed behind it enters another angle formed by its approximation to the right side of the vertebral column. The left tonsil appeared normal.

The second case was a patient sixty-four years of age, in which a slight protuberance could be felt just about, and in front of, but involving her right tonsil. This case presents many of the characteristics described in the last case. She had never suffered the slightest inconvenience with her tonsils.

The third case was a brother of the second, who had never suffered from any throat affection, but had on both sides the peculiarity above described. The hard substance is entirely in the posterior part of the tonsil; is much longer and reaches a full finger breadth below the level of the lower border of the tonsil.

The author excludes tonsillar calculi and concludes that they are congenital peculiarities. He believes them to be elongated styloid processes somewhat diverted from their normal direction. He does not consider surgical interference justified in these cases. W. S.

Skiagraphy of Foreign Bodies in the Larynx.

Mr. Sydney Rowland, in a special report to the *British Medical Journal* (March, 1866), states that as he had the opportunity of attempting the skiagraphy of foreign bodies in the larynx, a French nail and a fish bone were attached by plaster to the side of the neck of the subject in the exact projected position of the ventricle. Exposure to the X rays was made for six minutes, and both the nail and fish bone showed clearly in the plate, thus demonstrating conclusively the possibility of recovering foreign bodies impacted in this region. The rest of the structure of the neck showed very faintly or not at all, with the exception of the vertebral column and the hyoid bone. Being mostly cartilaginous, they are very transparent to the X rays. For the practical working of the method, it will be necessary, therefore, to draw up a projected chart of the region so as to localize with greater exactitude the actual position of any body. W. S.

Foreign Bodies in Throat.

The *Medical Times* describes a simple and unique and apparently rational method of removing foreign bodies where instrumental means may fail. The difficulty of removing fish-bones and similar obstructions impacted at the lower end of the œsophagus is well known, and various mechanical measures and appliances have been invented to deal with the difficulty. One of the most simple, however, and, as reported, one of the most effectual, is to administer to the patient a pint of milk, and forty minutes afterwards an emetic of sulphate of zinc. The fluïd easily passes the obstruction, and is, of course, rapidly coagulated in the stomach into a more or less solid mass, which, on being ejected, forces the obstruction before it and so effects its removal.

Case of Obstruction of the Larynx Due to a Web.

Dr. Barclay describes the case of a man, aged 39 years, who had not had syphilis nor other constitutional dyscrasia, who had suffered for eighteen months from hoarseness and loss of voice with gradually increasing difficulty in breathing, which induced his own doctor to perform Laryngotomy (*The Journal of Laryngology*, August, 1896).

A laryngological examination showed that there was intense inflammation of the whole larynx; the vocal cords, which were in apposition, were especially affected, being intensely red, swollen, and motionless. In spite of all that was done he continued in this condition for three months. Tracheotomy was then performed and the laryngotomy tube removed. The effect of this was soon beneficial; first one vocal cord and then the other leaving the middle line, and then the anterior two-thirds of the vocal cords was found to be united by a web.

This web had been cut by Whistler's cutting dilator and dilated by Schroetter's and other bougies, and now only a small amount of web tissue uniting the under surface of the vocal cords in front persists. The tracheotomy tube has been removed, and the man is able to do his work as a farm laborer. The points of interest in this case are:

1. There is no history of syphilis, and it is believed to be an instance of a web forming after a common cold.
2. The laryngotomy tube kept up the inflammation in the larynx, and tracheotomy is, therefore, to be preferred to laryngotomy.

W. S.

A Case of Tubercular Laryngitis on which Thyrotomy has been Performed.

Dr. Bond reports the case of a patient who had suffered from sore throat for four months (*The Journal of Laryngology*, August, 1896).

He had had night sweats, had been losing flesh, and had attacks of severe suffocating coughs. He had pains shooting up to the left ear. He had lost three children from phthisis; was much emaciated, and his face pinched and sallow. No history of syphilis could be obtained. He seemed to have had slight consolidation at right apex, bronchical breathing, etc., but no rales could be heard.

The left side of the larynx was fixed. There was great swelling of the left ventricular band, which was red and coarsely granular, and at the back was superficially ulcerated. The front of the left vocal cord could be seen with difficulty. There were no enlarged glands; the voice was very husky.

A thyrotomy having been performed, the whole left ventricular band was found affected and was removed, and also the inner edge of the left vocal cord. On the posterior commissure were several papillary excrescences and the mucous membrane here was also removed. The left thyroid plate was scraped, and also the anterior commissure.

The patient left the hospital a month after the operation with the narrow sinus unhealed and with some cough. He had improved considerably, his temperature being normal and his weight increased. The larynx is somewhat deformed and congested, but there is no definite infiltration to be seen and no ulceration. His voice is feeble, owing in part to the escape of air through the sinus. The specimen removed was found to be tubercular, and tubercle bacilli have been found in the sputum. W. S.

Epithelioma of Soft Palate.

Dr. Thos. Hubbard (*N. Y. Med. Jour.*) reports a case of epithelioma of the soft palate in which he successfully used injection of liquor potassæ. An asbestos-packed syringe with curved platinum needle was used. By the use of cotton swabs and a very dilute acetic-acid solution the mucous membrane around the growth was protected. Two injections were made. Five deep punctures were made and a portion of a drop of the solution deposited. Microscopic examination of a portion removed prior to operation confirmed the diagnosis.

Objects and Limitations of the Operations for Cancer.

Dr. Watson Cheyne, in a lecture delivered before the Medical Society of London, advises that as cancer of the tongue very soon spreads into the muscular substance the whole muscle should be removed, and that the nearest lymphatic glands should be taken away in every case (*British Medical Journal*, February, 1896). He justifies this radical operative procedure by statistics, which show the great frequency of recurrence after operation, varying from 61 to 89 per cent.

The limits of the operation for cure in case of disease of the tongue are, in the author's opinion, the following:

Very extensive infiltration of the tongue muscles, especially downwards towards the hyoid bone; extensive affection of the jaw in addition to the tongue; extension to the upper part of the larynx; and involvement of the carotid artery and vagus nerve in the large granulary mass. W. S.

Surgical Interference in Malignant Disease of the Larynx.

Dr. D. Bryson Delavan (*N. Y. Med. Jour.*), in an able article on Recent Advance in the Surgical Treatment of Malignant Disease of the Larynx, says:

"I am strongly of the opinion that, for a time at least, both the welfare of the patients operated upon and the interests of science demand that the indiscriminate performance of capital operations upon the larynx should cease. In most great centers there are individual surgeons or groups of operators who are especially well fitted, as to both personal qualifications and hospital facilities, for the successful performance of this work, as has been proved in many cases by the records which they have already made. Let such men surround themselves with the proper assistants, let them systematize their efforts, and use all diligence in the perfection of appliances and methods and in the study of the cases under them, and keep careful and accurate record of everything pertaining to the history of their work. Then resign to them temporarily the care of as many cases of laryngeal cancer as possible. When a sufficient amount of material has thus been collected, we shall learn whether the radical extirpation of laryngeal epithelioma is unjustifiable, or whether, as we have the best reasons for hoping, it is likely to establish for us a reliable means of cure."

Epithelioma of the Soft Palate Removed by Injections of Liquor Potassæ.

Complete eradication of the tumor followed this line of treatment, in a male patient, fifty years old (*New York Med. Jour.*, Thom. Hubbard, M.D., Toledo, Ohio). The disease had existed for some time, and was partly in the soft palate and partly in the pillar of the fauces on the right side. It was very painful and restricted all faucial movements. An exuberant growth of papillomatous tissue occupied the buccal surface of the cheek. The patient lived on semi-fluid diet. He became addicted to the cocaine habit, which affection was finally cured. A number of injections of liquor potassæ were given unto and around the growth, by means of an asbestos-packed syringe with a curved platinum needle. The pain was not severe. The mucous membrane in the immediate vicinity of the injections was protected by swabbings of very dilute acetic acid. The papillomatous masses on the cheek were touched with the stick potash. The man gained rapidly in weight, and a dense, firm cicatricial mass was all that remained of the tumor. Three months later, the patient expired from pleural effusion and mitral insufficiency. M. D. L.

Adenitis of the Neck and Carious Teeth.

In an editorial appearing in the *New York Medical Journal* a German surgeon, Dr. Starck, is quoted as stating that out of a hundred children which he had examined, ranging from three to twelve years of age, suffering from this disease, in fully forty-one per cent. the exciting cause was found to be dental caries. Out of this number infections and hereditary diseases were excluded. He remarks that carious teeth are to be recognized as among the most frequent avenues of infection in children, and further emphasizes the practical point, that surgeons should extract any carious teeth which may exist in patients upon whom they operate for tuberculous glands of the neck. M. D. L.

Primary and Secondary Pharyngeal Tuberculosis.

Secondary invasion of the pharyngeal tissues is not a rare complication of a tubercular affection, but a primary manifestation is certainly not frequently observed (W. F. Chappell, M.D., in *New York Medical Journal*). The author reports such a case, which followed the removal of some adenoid tissue from the pharyngeal vault. The patient was a female, 19 years old, who suffered from post-nasal discharges and nasal obstruction. At several sittings the growths were removed with the forceps, under antiseptic precautions. A week after the last operation the patient complained of chills and pain behind the palate. Her appearance showed that she was ill. She had an ashy-gray complexion. On post-nasal examination, the mucous membrane was found inflamed and puffy in appearance, resembling adenoid growths. Some of this tissue was removed, and was found quite firm and hard. Three weeks later the cervical glands became swollen, and were quite painful and tender on pressure, especially on the right side. The lateral folds of the pharynx were enlarged, and appeared as thick nodular ridges, about the size of a lead pencil. This nodular condition also existed in the naso-pharynx. Nothing was found in the lungs, but the patient had a temperature of 101° F. Up to the time of the operation the young lady had enjoyed good health. Previous to her throat treatment she had nursed her sister, who died from an acute form of pulmonary tuberculosis. After the sister's death the young woman occupied the same room in which her sister had been, and used the same bed clothing and other things without same having been disinfected.

Under the microscope the mucus from the pharynx and naso-pharynx showed tubercle bacilli. Examination of several pieces which were removed from the right lateral pharyngeal fold demonstrated characteristic tubercle, with many giant cells. Tubercle bacilli were also found. The diagnosis made was miliary tubercle of lymphoid tissue. Local treatment was carried out, and the disease improved. Daily examinations of the lungs were made, but no lesion was discovered until four months after the pharyngeal disease, when the right apex was found affected, and shortly afterwards the left apex. The soft palate and larynx became involved, and the patient soon succumbed.

The question arises whether infection would not have occurred if the operative treatment had been omitted. In primary cases of this disease in this region the local evidences precede the swelling of the cervical glands by a few days. In secondary cases, the glands are usually affected some time before the pharyngeal involvement. The right side of the pharynx seems to be more readily infected, and this is probably due to the difference in the arrangement of the lymphatics.

M. D. L.

A Case of Perichondritis of the Larynx.

This complication occurred in a young man suffering from a specific urethritis (H. S. Birkett, M.D., Montreal, in *New York Medical Journal*). Pain on swallowing and hoarseness were the local symptoms present. Several joints were affected, and on examination of the larynx the mucous membrane was found swollen and œdematous over the left crico-arytenoid joint. The cords were normal in color, but the left one moved sluggishly. Pressure over the affected joint outside was very painful. Constant application of a Leiter's coil afforded great relief. In a week's time the disease abated, together with the disappearance of the symptoms of the other joints involved.

M. D. L.

OTOLOGICAL.

The Degenerate Ear.

In an editorial in the *American Medical Review*, September, 1896, the following interesting description of degeneration in the formation of the external ear is given:

"The ear bears a special relationship to the contents of the cranial cavity. There is even a form of external ear disease — namely, non-traumatic othæmatoma—which is found most commonly among the insane. Other positive evidence of the relationship between the ear and the brain has been shown by the examination of the ears of criminals and of the insane conducted by well-known authorities.

"The system of ear measurement instituted by Bertillon, which now bears his name, was originally begun as a part of a general and minute measurement of criminals for purposes of identification merely. It has, however, given valuable data for a classification of the characteristics of the criminal and the degenerate.

"A noteworthy and interesting paper relative to this subject appears in the *Journal of Insanity*. Dr. McCorn in this paper deals in a general way with the traits which are usually regarded as peculiar to criminal physiognomy.

"The average ear regarding size, shape, angle of insertion, etc., is taken as a normal standard. Dr. Eugene S. Talbott found (*Journal of the American Medical Association*, January 11, 1896) the average length of the ear to be 2.50 inches; average width, 1.22 inches.

"The angle of insertion, or the auriculo-temporal angle, varies very greatly. That a large angle is indicative of degeneration has been shown many times. Frigereo found that a large angle was very common in homicides; less frequent among thieves. An examination of 465 boy criminals in the Reformatory at Pontiac showed that in only 198 the ears were close to the head, being at an angle of from 10 to 15 degrees. In 152 cases the ears were at an angle of 45 degrees; while in 115 the ears stood at right-angles, or 90 degrees. A similar examination of 1,041 criminals at Elmira showed that in 285 cases the ears were close to the head; in 567 they presented an angle of 42 degrees; while in 187 they stood at right-angles.

"Excessive or arrested development of the helix constitutes a stigma. A deformity of the helix, which has become classical through the attention paid it by Darwin in the 'Descent of Man,' is a very interesting one. This deformity is a small projecting point on the free border of the unfolded helix. Darwin concluded that this point was the remnant of the animal ear, folded downward and compressed. Occasionally these tubercles are multiple.

"The anti-helix is rudimentary in apes. Investigation in this country, however, does not bear out the theory that arrested development of the anti-helix is unusually common in the criminal and in the insane.

"The anti-tragus is said to be very frequently absent among the degenerate classes.

"The formation of the lobule is considered particularly significant by neurologists, who consider a long lobule a marked sign of degeneracy. The absence of the lobule, as well as the absence of one of the branches of the fork, or crus, of the anti-helix are considered to be stigmata of degeneration.

"Scientists and neurologists, however, are forced to lay little stress upon the occurrence of any one or two aural stigma. It is only the combination of several that carries weight as indicative of a corresponding degeneration of the cerebral tract."

International Statistics of the Deaf.

The Volta Bureau has recently published the first of a series of interesting and valuable statistics, containing the returns from nearly all the institutions for the deaf in the world.

Each school is represented in a tabulated report, recording location, name of institution, date of establishment, founder, principal or executive officer, method of instruction, number of teachers and pupils; also valuable statistics referring to the number of congenitally deaf pupils, and those who have some hearing power.

The following tables are self-explanatory:

NUMBER OF SCHOOLS AND METHODS OF INSTRUCTION.

Continents.	Schools.	Methods of Instruction.				
		Manual	Oral.	Manual Alphabet.	Combined.	Not stated.
Africa	5	1	2	......	1	1
Asia	5	......	2	2	......	1
Australia	4	......	......	1	2	1
Europe	357	7	236	2	37	75
North America	100	3	27	1	67	2
South America	3	......	......	......	2	1
Total, 1895	474	11	267	6	109	81
Total, 1882	397	32	239	......	91	37

NUMBER OF SCHOOLS, TEACHERS AND PUPILS, AND CONDITIONS OF ORGAN OF HEARING OF PUPILS.

Continents,	Schools.	Teachers.	Pupils.		
			Congenitally deaf.	Have some hearing power.	Totals.
Africa	5	14	21	13	72
Asia	5	11	109	30	198
Australia	4	24	94	27	160
Europe	357	2,676	5,986	3,220	21,852
North America	100	1,117	2,518	1,095	10,127
South America	3	13	32	12	74
Total, 1895	474	3,855	8,760	4,397	32,483
Total, 1882	397	2,029	......	......	26,473

This interesting 32-page pamphlet should be in the hands of every progressive aurist, who takes an interest in the welfare of institutions for the training and teaching of the deaf. We compliment the able superintendent of the Volta Bureau, Mr. John Hitz, for his energies and the excellence of the report.

Boxing the Ears.

It is well to direct the attention of the profession from time to time to the evil consequences of this practice.

Dr. O. F. Baerens, in *Tri-State Medical Journal*, August, 1896, presents a series of cases where boxing of the ears, either in sport, as in foot-ball, wrestling, boxing, or as a form of chastisement, has resulted in a variety of affections of the ears.

The clinical history of almost all cases who have received blows on the ears differs generally only in the intensity of the symptoms. One symptom which perhaps creates more alarm than the others is autophonia, a condition in which the patient feels as though his cranial cavity contained air instead of brains.

Teachers and parents should be made to understand the frequent bad effects of this method of punishment, and the attention of physicians should be directed to this class of injuries, and their influence enlisted to help abolish this practice.

Relation of the Thyroid Gland to Certain Diseases of the Ear.

Dr. Edmund D. Spear, in an article published in the "Boston City Hospital Medical and Surgical Reports," summarizes his carefully-prepared paper as follows:

"Cases of progressive disease of the ears, occurring in patients whose nervous organization is not normal, and who usually complain of hearing roaring or ringing noises, whose ears upon examination with mirror and speculum present slight ulcerations, are found to have lost the power of hearing the lower tones of the musical scale. Among these cases a large percentage have a noticeable enlargement of the thyroid gland, and all have swelling or hypertrophy of the turbinate bodies. The displacement of the malleus and locking of the malleo-incudal joint, brought about by the closure of the Eustachian tube in the consequence of the lack of inhibitory action upon the turbinate body by the thyroid gland, is, in the early stages of these affections, the cause of the impairment of hearing. In the latter stages of the disease a fixation of the other ossicles takes place, until the stapes finally become firmly set in the niche of the foramen ovale, thus producing almost complete loss of sound conduction.

"I here purposely omit more than a reference to the neurotic element which enters so fully into these cases, and which explains the inability of many patients to use their ears for any length of time without exhaustion."

The Telephone and Its Application to the Deaf.

In calling attention to the application of the telephone as an assistance to those markedly affected, the author, B. Thornton, London, (*The Lancet*) states that in every institution for the education of deaf mutes probably from ten to twenty per cent. of the children possess some degree of hearing. He has found that with the use of a modified mouth-piece and receiver the voice could be readily heard. To those totally deaf the only method of service is labial expression and the sign language.

[We at times observe that, in cases of partial nerve deafness, repeated and systematic word lessons on the part of the physician will accomplish some good towards re-establishing the function of a degenerate nerve and receptive centre. The telephone offers a means by which a definite quantity of sound vibrations can be applied; and this vibratory massage, together with acquainting the dormant auditory centre with familiar tones, may probably prove of great service.—Ed., M. D. L.]

Chronic Otorrhea Permanently Cured with Trichloracetic Acid.

Halasz confirms Okuneff's announcement of the value of this treatment, and recommends the following *modus operandi:* As the pain is severe, five to eight drops of a 10-per-cent. solution of cocain should be held in the ear for three minutes (*Therap. Woch.; The Journal of the Am. Med. Assn.*, Aug. 22, 1896). During this time a syringe of tepid water should be used to melt the crystals of the acid on the specially constructed sound. The ear is then lighted, and the sound introduced into the middle ear through a rubber ear-speculum. Every spot to be cauterized should then be touched lightly but effectively with the acid, especially the edges of the perforation and the mucous membrane of the middle ear. The ear should then be rapidly rinsed out with one or two syringes of water, and after it is dry dusted with aristol or powdered borax blown in. The operation should be rapid, and repeated once or twice a week, when the otorrhea soon disappears, the perforation in the drum closes, and the hearing is completely restored. W. S.

Pyrozone and Dilute Hydrochloric Acid in Suppurative Inflammations of the Middle Ear.

This combination is highly recommended in suppurative manifestations of the middle ear after acute symptoms have subsided. The author, Wm. Cheatham, A.B., M.D., Louisville (*Med. Record*), has derived excellent results with this solution in chronic cases where other means have failed. Ten drops of dilute hydrochloric acid to one ounce of pyrozone is the proportion employed. Of this, ten drops are placed in the canal, once, twice or three times daily, after the ear has been cleansed. The solution is then left in the ear about five minutes, and forced into the middle chamber by pressure upon the tragus. Drainage can be continued by the use of strips of iodoform gauze placed in the canal. M. D. L.

Brain Abscess and the Middle Ear.

Dr. B. F. Church, in the course of an interesting article in the *American Medico-Surgical Bulletin* on "Acute Inflammation of the Middle Ear," says:

"In reviewing the literature of suppurating diseases of the brain and its membrane, the fact is apparent that a very large majority of these cases come from either an acute or a chronic suppuration of the middle ear; in fact, if trauma and tuberculosis are eliminated as causes of brain abscess, we would seldom err to lay all of them at the door of middle ear disease."

That this is so is recognized by all experienced aurists. Too much emphasis cannot be given to the necessity for the general practitioner to watch the ears of his little patients, and in case of the presence of any inflammatory trouble, especially during the course of the exanthematous diseases, to either be prepared to properly attend to this portion of the case or call in some one who can.

Case of Sigmoid Sinus Thrombosis.

At a meeting of the Glasgow Pathological and Clinical Society the author, Dr. J. K. Love (*Glasgow Med. Journal*), presented a female patient who recovered from a lateral sinus thrombosis following a suppurative otitis media of eight weeks' duration. The interesting feature of the case is that, though the sinus contained a thrombus, same was not disturbed. Symptoms of optic neuritis, dilated and sluggish pupils, epigastric pains, diarrhea and vomiting were present. A mastoid operation was performed, but the above symptoms persisted, and a portion of the bony boundary of the sinus was removed with evacuating the clot.

[Absorption fortunately took place; but where a thrombus can be demonstrated, as in this instance, we certainly give the patient a better chance by removing same, thus get rid of the irritating and septic factor.—M. D. L.]

Sarcoma of the Base of the Skull, Involving the Ear.

In the *Australasian Medical Gazette*, Dr. C. H. Hogg, of Tasmania, reports a rare and interesting case of sarcoma of the base of the skull, involving the temporal area, in a child four-and-a-half years of age. The development to a fatal termination was remarkably quick.

With regard to some of the symptoms in this case, headache was absent during the greater part of the period; vomiting was absent at first, and even later when present was not severe; neuro-paralytic ophthalmia, which was present, is of frequent occurrence in tumors of the base, more especially of the middle fossa, where they involve the Gasserian ganglion.

The post-mortem examination revealed an extensive growth of the base, involving the parts to such an extent that it was impossible to remove the brain in its entirety. The growth, which seemed to have sprung originally from the body of the sphenoid bone, had so eroded the base of the skull that on dissecting out the growth, the pharyngeal wall was exposed. The tumors had involved the basilar process of the occipital bone and the apex of the petrous portion of the left temporal bone, through the latter of which it had gained access to the tympanum. The bones affected were soft, and could be pulled into pieces by the dissecting forceps. The surface of the pons was adherent to the mass, and had to be dissected away from it.

Microscopic examination showed the growth to be a round-celled sarcoma.

Of tumors of the base, sarcomata are the most frequently met with, and as a rule start in the dura, or more rarely in the bone.

Although it is not uncommon to find tumors eroding other parts of the skull, such an occurrence is much rarer in tumors of the base. In this case, not only had the tumor eaten through the base, but it had also made its way through the petrous portion of the temporal bone into the ear, and perforating the membrana tympani appeared as a polypoid growth in the external ear.

Such a condition is of rare occurrence, and we meet with few similar cases in literature.

NEW INSTRUMENTS.

Hawkbill Nasal Scissors.

Dr. J. C. Lerter (*N. Y. Med. Jour.*) has devised a hawkbill nasal scissors, made by G. Tiemann & Co., that removes a V-shaped piece of the bone. He claims, by this method of operation, that the major part of the mucous membrane remains intact, and that after the cut surfaces are brought together a space sufficiently large for perfect respiration remains.

A New Tracheotomy Tube.

Dr. De Santi describes a tube adapted for patients who have to wear a permanent tube, and who have sufficient space to expire through the larynx, though not room enough for inspiration (*Journal of Laryngology*, Aug., 1896). The tube is fitted with a small metal hollow plug, with a small rim below, and in the plug is fitted a metal hinge valve, something like a sewer trap; on inspiration the valve opens and the patient breathes through his tube; on expiration the valve closes tightly and air passes through the larynx. The advantages of the plug and valve are:

1. That the patient can speak distinctly and without putting his fingers on the tracheotomy tube.
2. That he coughs up mucus, etc., through the larynx and out of the mouth, normally.
3. That the patient is able to wear a collar and shirt and go about comfortably.

If the removable plug becomes blocked with mucus it is taken out and boiled, and in the meanwhile a fresh plug is inserted. It is of course necessary that there should be an opening of the tracheotomy tube in the ordinary place at its greatest convexity. W. S.

A New Self-Retaining Nasal Speculum.

Dr. J. R. Straw, of Ashland, Wis. (*Journ. Am. Med. Assn.*), describes a nasal speculum claimed to be absolutely self-retaining. The speculum consists of three fenestrated or solid blades, mounted on a square base. The central blade is stationary; those on either end are movable. To apply the instrument, the central blade is inserted on the side of the septum of the nares to be examined; the distal blade is then pushed toward the septum, the septum being thus clamped between the distal and central blades, thus preventing any slipping of the instrument. The third blade is then pressed out against the alae of the side to be dilated. The movable blades are self-locking, on the Lennox-Browne principle.

SOCIETY PROCEEDINGS.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Twenty-second annual meeting, held at St. Paul, September 15, 16, 17 and 18, 1896.

SUMMARY OF PAPERS AND DISCUSSION.

A New Operation for Cleft Palate.

Dr. Truman W. Brophy, Chicago, took the ground that the operation should be performed much earlier than has been the custom of surgeons heretofore. It has usually not been thought advisable to operate for the closure of cleft palate until the child has reached the age of two to five years. He maintains that when the operation was thus postponed the changes in the voice had become permanent, and a repair of the cleft at that time would not react favorably in the voice production. His operation consisted in freshening the edges of the cleft, then by deep suture of silver wire fixed through a lead plate, conforming to the palate, the edges of the cleft are drawn together and so maintained until healing takes place. The technique of the operation was minutely explained. It was original with the author, and in his experience has proven most effectual.

Dr. W. F. Daley, of Pittsburg, said that this method does away with all the objections to the old operations. "We all know that in some cases we were compelled to operate four or five times, and then consider ourselves fortunate if we succeeded in getting a perfect result. Even in these cases the result was never perfect, inasmuch as we could not at that late date teach our patients a perfect speech."

The Treatment of Experimental Tuberculosis in Animals by the Use of Blood Serum.

Dr. Paul Paquin, of St. Louis:

The use of antitoxin goes back to the active principle underlying immunization, an agent which is itself curative to a certain degree.

Tuberculin is, to a degree, capable of modifying certain forms of tuberculosis. The inconvenience resulting is chiefly in the more or less severe reaction following. It is now claimed that tuberculin may be made with this poisonous principle eliminated.

Experiments in guinea pigs unfortuately do not give the same results that they do in the human subject. Furthermore the experience of investigations with the serum therapy treatment of tuberculosis varies greatly in different cases. They all, however, demand of any treatment absolute cure of tuberculosis when used in the human. We have been busy with all possible and varied forms of experimentation in the smaller animals; but we are not always able to properly interpret the results of any given form of treatment and then make an exact application of those principles to man as a reliable guide.

In guinea pigs inoculated with tuberculosis and then treated with serum 10 per cent. were saved. Later results show very much higher percentage than this—from 25 per cent. to 55 is favorable. In the human, 226 cases showed about 60 per cent. favorable, with 40 recoveries and 120 improved. Antitubercle serum is positively curative in many cases; it has passed the experimental stage, but yet we know it is not perfect. From my own, and the experience of others, it will be observed that only a relative number of tuberculous patients can with our present knowledge of tuberculosis and antitubercle serum be treated successfully. If it does not succeed it is because of existing conditions, such as intolerance to serum injections of any kind, which is very rare; general destruction of physiologic equilibrium beyond repair; incurable lesions or mixed infection.

Dr. Longstreet Taylor, of St. Paul: It is not necessary that the serum should produce an antitoxin in the body. It will in many cases give most gratifying results, but in others, for some reason, it is just as disappointing. My experience with the Paquin serum has not been entirely satisfactory, but I intend to give it further tests.

Dr. W. F. Barclay, of Pittsburg: I am satisfied that some such men as Paquin will demonstrate the ultimate success and positive value of antitubercle serum, and hope criticism will not discourage him and others.

Dr. H. W. Loeb, of St. Louis: At the last meeting I presented some reports relative to the treatment of laryngeal tuberculosis with serum. I promised at that time to report the results. While they have not been as good as we had hoped, yet they are such as to encourage still further attempts. Knowing that these cases at best are almost always fatal, we as well as the patient are glad to try anything that gives the least hope of a cure. Of the cases reported at least two are yet living and well. Of two others I cannot say, but at latest reports there was no return. I believe the serum treatment will eventually be the method, but we must go further before we can say it is a specific.

Dr. Charles Green, of St. Paul: The fallacy of medical statistics is best shown by tuberculosis. I do not have much confidence in any such.

Dr. Joseph Muir, of New York: All other "cures" are claimed to have some specific or selective action, but Dr. Paquin has not said what is the selective action in the serum therapy treatment. I am convinced a change in the home surroundings of many cases will do more toward a cure than a change of climate.

Dr. Paquin, in closing, said: I agree with all who have said that nature must come to our assistance in these cases. There are so many complications usually that we can scarcely hope to cope with all of them successfully. Digestion and the nervous system must be always considered.

A Demonstration of the Therapeutic Action of the Antitoxin.

Dr. E. M. Houghton, of Detroit, reviewed the theories of serum therapy demonstrating the difference between toxins and antitoxins. It has not as yet been shown just how the antitoxin counteracts or destroys the toxin. I have brought six guinea pigs for demonstration. I will inject three of these with the toxin cultures; the other three with the antitoxin and toxin.

The discussion of the paper was postponed until the reults of the injection on the animals should be determined.

Reinfection in Consumption.

Dr. Joseph Muir, of New York, said: Statistics show that a first attack is not usually fatal, and death is often found to be due to other causes. Primary infection is not usually due to inherited tendencies, but external conditions play a most important part. Consumption is best treated among the rich; frequently indeed a permanent cure is effected in this class of cases; so, for evident reasons those who are poor should be given especial attention. Patients who have been cured must not be allowed to return to their former environment. Redevelopment is inconsistent with clinical experience.

Change of air and outdoor exercise and labor hardens and freshens the tissues, and the respiratory impurities of former environment are no longer present. Reinfection may be prevented by:

First. Thorough disinfection of the patient and surroundings.

Second. Destruction of the sputum.

This protects the patient against himself.

Dr. H. J. O'Brien, of St. Paul: I am satisfied there are many cases of reinfection. I have sent them away, and in six months they would come back to die; by staying away they will sometimes escape contagion and reinfection.

Dr. J. A. Larrabee, of Louisville: I have long believed if a consumptive could have these conveniences and this care in the beginning, along with a stuffed feeding, that in many cases we could check or abort entirely the disease. The most terrible mistake is made in sending subjects away for treatment. Home is best, no matter where that home is. Improve it all that is possible, but leave them among friends. I think there is much in this idea of reinfection.

Dr. R. H. Babcock, of Chicago: The author of course does not claim all cases are of infection. I wish to emphasize in the strongest possible terms the idea that if sent away and they improve they must stay away permanently.

Tonsillotomy by Cautery Dissection.

Dr. J. Homer Coulter, of Chicago: No subject in surgery or medicine has been much more prolific in interest and discussion than that of the tonsil. In the past ten years over 600 papers have been written on that subject alone. The size of the normal tonsil is still a subject of discussion with throat specialists. Some claim there is normally no tonsil to be seen; however, the most usual opinion is that there exists normally a collection of follicles between the pillars of the fauces, protruding slightly above them. The tonsil is an almond-shaped gland, larger at one end than the other and somewhat flattened.

The methods usually employed for its ablation are the guillotine, *ignipuncture*, the cold or cautery snare, or the knife. Each of these methods have practical objections to their use. Most important of these objections, and one which applies to all of them, is the fact that by no one of them can the gland be taken out. Unless this is done the part remaining will oftentimes produce as much trouble as did the former condition. The operation I propose obviates this objection entirely if properly performed.

With a well-heated small electrode the pillars are dissected away from the tonsil to one-half its extent. The gland is then, with suitable forceps, drawn well out and thoroughly and entirely dissected out to about one-half its extent. This portion is then cut off and the surface treated with a strong solution of silver nitrate. In a week or ten days the other portion of the tonsil is removed in the same manner. This operation will give cosmetic as well as practical results unobtainable by any other process yet suggested.

Dr. H. W. Loeb, of St. Louis: I believe most decidedly in what the doctor has said about the lack of skill of many who attempt to remove the tonsils by the ordinary method. Very often they will take a piece off, and by showing that to the patient or his friends they imagine he has performed tonsillotomy. If the operator could see that patient five or six years later, suffering from the same affections to which the remainder of the tonsil becomes subject, I think he would not be so well pleased. Removing a part can only improve the symptoms then present, and it does not signify that the tonsil will remain quiescent. It is unfortunate so valuable a method is not applicable to young children; in adults I do not think it can be improved upon. I have been practicing this method with some modification for some years. Instead of performing so much dissection it has been my plan to remove so much of the tissue as I could get in an electric snare. This is repeated as often as may be necessary to remove all the glandular substance. I think the method causes less soreness and less pain than that of Dr. Coulter, and in many cases, particularly children, the results will be just as satisfactory. Furthermore my method is applicable in case of young children.

This method of dissection is one that must commend itself in a great number of cases as being the very best possible. I most heartily agree with the author that removal of the whole tonsil is an absolute requisite if you wish to cure your patient. As to the voice changes suggested by some, I believe ablation of the tonsil does have a decided effect on the voice register, but I also believe it is always in the way of improvement. I also desire to state my disbelief in the uric acid diathesis having anything to do with tonsillitis, further than as a concomitant condition. I shall certainly provide myself with the special instruments used by Dr. Coulter, and further investigate the operation. When in Chicago I had the opportunity of seeing some of these cases, and I must say for cosmetic results I have never seen the equal.

Submucous Linear Cauterization ; a New Method for Reduction of Hypertrophies of the Conchae.

Dr. Norval H. Pierce, of Chicago, called attention to the various methods ordinarily used for the reduction of such hypertrophies, and showed the disadvantages of such. The differentiation between hypertrophy and turgesence was pointed out. The operation proposed by the author was as follows: A small incision is made in the hypertrophied membrane; then with a blunt flat probe the mucus membrane is carefully separated from the erectile tissue underneath. Then a sound, the end of which is cup-shaped, and upon which has been fused a few crystals of chromic acid, is inserted in the incision and the track already made by the probe is thus cauterized. The advantages of this method are that there is no hemorrhage. It is less painful than by any other method. The functional activity of the mucous membrane is not in the least impaired. Patients will submit to this operation more willingly than to the burning of the cautery. The method is the most simple of any yet suggested. The reaction is usually insignificant. There is no slough. The danger of atresia is obviated.

Dr. Coulter complimented the author on the originality of his method and its various points of excellence, at least theoretically present. The main object to be attained is not only the reduction of hypertrophy, but as well the retention of functional activity. Many operators in using the cautery destroy too much of the mucus membrane and do not go deep enough to remove or destroy any practical amount of the tissue underneath, which in reality is the pathological condition present. He suggested the possibility of the chromic acid being left within the operative field, in which case an undesirable slough would necessarily follow.

The practice of many rhinologists in using a broad flat electrode, and destroying a large amount of the mucous membrane, and in not going down to the bone, is to be deplored as irrational, unscientific and impracticable, inasmuch as by such measures they do not cure the hypertrophy, but do very materially reduce the functional capacity of the nasal mucous membrane.

Dr. W. L. Ballenger, of Chicago: You, who have used this cautery must have learned to use it with more caution than you once did. The rationale of Dr. Pierce's operations is certainly an ideal one. If the hypertrophy can be removed without the destruction of any mucous membrane, little more is to be desired.

Dr. H. W. Loeb, of St. Louis: It seems to me this operation is a thoroughly scientific one, if we can thus preserve the mucous membrane and its function. It occurs to me that antisepsis and asepsis would both be a necessity with this method. I would like to ask why we could not use a platinum wire properly made and introduced in the same manner. I have seen blindness result from cauterization of the inferior turbinates; is there danger in the use of the chromic acid by this method?

Dr. Stuckey: We must determine whether it is an hypertrophy or simply a turgesence. If the latter, it may be simply an acute condition caused by some idiosyncrasy. If a true hypertrophy, this method would seem to be an excellent one, requiring, however, a considerable amount of technical skill. I am becoming more and more skeptical in the use of cocaine in the nose. There is the greatest danger of producing cocaine habitues by its use. I am able to get the same results without danger and less systematic disturbance by the use of a harmless solution of acetanilid.

Diseases of the Nose and Throat in Children.

Dr. W. F. Barclay, of Pittsburg, dwelt particularly on the possible results of acute and chronic purulent and muco-purulent rhinitis in children, pointing out not only the necessity for more attention by the family physician, but as well demonstrating that almost, if not all of the pathological conditions in the nose occurring in later life, have their origin in this condition in childhood.

The paper throughout was an unusually practical and interesting one—practical because we see it daily demonstrated in our professional life. Children should be taught to breathe through the nose rather than the mouth. Parents should be taught that surgery can relieve, very easily, those who are unable to breathe through the nose.

OFFICERS FOR 1897.

President—Dr. Thomas Hunt Stuckey, Louisville.
First Vice-President—Dr. Chas. A. Wheaton, St. Paul.
Second Vice-President—Dr. Paul Paquin, St. Louis.
Secretary—Dr. H. W. Loeb, St. Louis.
Treasurer—Dr. W. N. Wishard, Indianapolis.
Member of Judicial Council—Dr. H. T. Patrick, Chicago.

The next place of meeting was appointed at Louisville, the third Tuesday of September, 1897.

Dr. H. Horace Grant was elected chairman of the committee of arrangements.

With a vote of thanks to the retiring officers, committee of arrangements and good people of St. Paul, the association adjourned.

BOOKS AND PAMPHLETS RECEIVED.

Intra-Tympanic Disease. By Jos. E. Willetts, M.D., Pittsburg, Pa. Reprint, *Pittsburg Med. Rev.*

The Relation of the Thyroid Gland to Certain Diseases of the Ear, with a Theory of Its Functions. By Edmund D. Spear, M.D. Reprint, "Boston City Hospital Medical and Surgical Reports."

Circular No. 3, International Reports of Schools for the Deaf, made to the Volta Bureau. December, 1895.

Cerebral Disease Following Middle Ear Suppuration. By M. D. Lederman, M.D. Reprinted from the *Jour. of the Am. Med. Association.*

THE

LARYNGOSCOPE.

Vol. I. ST. LOUIS, MO., NOVEMBER, 1896. No. 5.

ORIGINAL COMMUNICATIONS.

A NEW OPERATION FOR THE CORRECTION OF DEFLECTIONS OF THE NASAL SEPTUM.*

BY E. B. GLEASON, M.D., PHILADELPHIA.

Clinical Professor of Otology in the Medico-Chirurgical College; Physician in Charge of the Nose, Throat and Ear Department of the Northern Dispensary.

Deviation of the nasal septum to one side or the other of the median line is the rule rather than the exception, so that it is unusual to find an individual whose nares are of exactly the same size. Hence deviation of the septum scarcely can be considered a pathological condition unless of sufficient degree to cause decided stenosis in the nares toward which the septum is deflected. Under such circumstances, however, the parts posterior to the obstruction become inflamed as the result of the rarification of the air in the obstructed naris during inspiration, and the consequent collection of mucus is dislodged with considerable difficulty by almost constant sniffing and hawking. Nor do the evil results end here. Not infrequently the inflammation of the obstructed nares extends backward into the pharynx and involves one or both of the pharyngeal orifices of the Eustachian tubes, so that a deflected nasal septum is a not unfrequent cause of Eustachian salpingitis and consequent deafness.

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*Read before the Section of Otology and Laryngology of the College of Physicians, Philadelphia, October 6, 1896.

Among the ancient Persians and Greeks attempts were made to overcome deflections of the septum by manipulation, and in young persons having a moderate amount of deflection of the cartilaginous septum, a certain amount of benefit undoubtedly follows the daily replacing of the deflected portion of the septum into as nearly a normal position as can be accomplished by inserting a finger into the obstructed naris. What might be considered a modification of the ancient treatment by manipulation consists in the disarticulation of the base of the triangular cartilage with the finger or Adams forceps. This method of operating is crude and unsuccessful; the usual result being that even when the dislocated septum is retained in a normal position for weeks by a pin, it sooner or later returns to its former abnormal position. The cause of failure is the redundancy of the deflected septum; and when compressed into a normal position in the median line, its resiliancy tends to spring it back into its former abnormal position.

Adams, of London, endeavored to overcome this difficulty by making stellate incisions through the most convex part of the deflection. The septum then being forced into the median line with forceps or the finger and retained in position by means of a clamp. His operation has been modified by Steel, of St. Louis, and Sajous, of Philadelphia, each of whom invented cutting forceps so constructed that the stellate incisions could be made all at one time by simply closing the instrument when in position within the nose. Sajous, instrument is so constructed that a portion of the septum is actually removed, so that the parts can be brought together without overlapping.

Probably the operation most frequently performed to remedy septal deflections is that devised by Dr. J. B. Roberts, of Philadelphia. A scalpel is introduced through the obstructed nostril, the cartilaginous septum perforated at its posterior-inferior portion, and a long incision made through the septum downward and forward as the knife is withdrawn. This incision enables the operator to push the whole anterior portion of the septum toward the unobstructed naris and retain it in position by means of one or two pins, which, if possible, are allowed to remain for ten days or two weeks. Roberts' operation frequently yields satisfactory results, but the pressure of the pins sometimes causes sloughing of the cartilage and a permanent opening through the septum, while not unfrequently the septum gradually returns to nearly the same position that it occupied before the operation.

Figures 1, 2 and 3 are diagrams representing vertical transverse sections through the anterior part of the nose. Figure 1 shows a somewhat common form of deflection. The septum is not only deviated toward the left, at a somewhat acute angle, but the apex of the angle is greatly hypertrophied. Under such circumstances, a very satisfactory result can be obtained by simply sawing off the hypertrophied angle, care being taken that the mucous membrane in the unobstructed naris is not injured by the saw. Should this simple procedure not yield sufficient breathing space, by means of a finger thrust into the obstructed naris the septum should be thrust into the median line and retained there by means of a pin, a metal or cork tube or a plug of iodoform gauze. The parts should be carefully watched and no undue pressure exerted upon the wound, or sloughing will occur and a permanent opening through the septum result. The writer has obtained some very satisfactory results from this operation; which resembles, it will be observed, that advocated by Dr. Ingals, of Chicago, inasmuch as an A-shaped piece with its base near the floor of the nose is removed from the septum.*

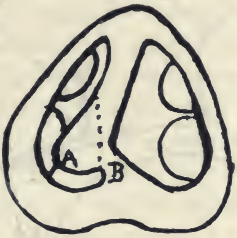

FIGURE 1.

Vertical, transverse section through the anterior portion of the nose; angular deviation of the septum, with hypertrophy of the tissues at the angle of the deviation. The dotted line indicates the direction of the saw-cut for the removal of the obstruction.

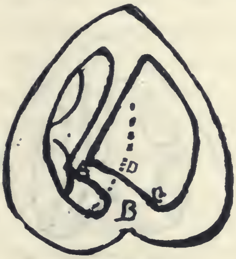

FIGURE 2.

Vertical, transverse section through the anterior part of the nose; angular deviation of the septum without hypertrophy of the tissues at the angle of the deviation. The dotted line indicates the direction of the saw-cut for forming the tongue-shaped flap covering the button hole in the septum. AB and DC, portions of the septum to be denuded.

In Figure 2 the angular deflection is sufficient to entirely occlude the right naris, but the septum has retained its normal thickness throughout and there is no hypertrophy of the tissues at the angle of the deflection. In this form of angular deviations, in curved deviations and in some sigmoid deflections, the writer formerly performed a modified Roberts operation, but lately has done what might be called a flap and buttonhole operation. This procedure can be executed more quickly than that of Roberts, is simpler, and apparently is capable of

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*Reference Handbook of the Medical Sciences, Vol. V., p. 217.

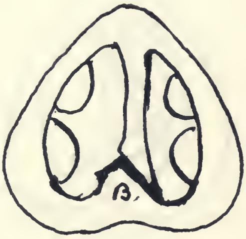

FIGURE 3.

Vertical, transverse section through the anterior portion of the nose, showing position of the septum after the tongue-shaped flap has been thrust through the button hole in the septum. After healing has occurred, the parts at B are sometimes abnormally thick; but redundant tissue can readily be removed with the saw.

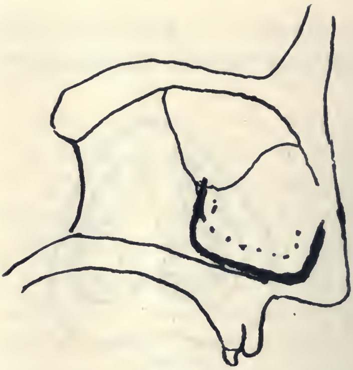

FIGURE 4.

Sagital section through the nose to the right of the septum. A—convex surface of deviated area of the septum. The dark line shows position of U-shaped saw-cut through the septum about the deviated area on the convex side, and the dotted line the position of the same saw-cut on the side of the septum. In some instances the mucous membrane on the concave side of the septum apparently rides over the saw teeth and is not cut to the extent shown in the diagram.

yielding almost uniformly successful results. The technic of the operation is as follows:

After thorough cocainization, the field of operation is brought into view by means of the writer's self-retaining nasal dilator, and a Bosworth saw introduced into the obstructed naris close to and parallel with the floor of the nose. The septum is sawn transversely until the teeth of the saw have penetrated somewhat deeply into the cartilage or bone. The direction of the sawing is then somewhat rapidly changed until it becomes nearly vertical. Carefully retaining the saw in a position parallel to the intermaxillary suture, the sawing is continued until a U-shaped incision has been made through the septum, surrounding, except above, the whole deflected area of the septum. The dotted line (Figure 2) shows the position of the saw cut. From the position in which the saw was held while sawing upwards, it will be seen (Figure 4) that the U-shaped cut through the septum is larger on the convex side of the septum. The dotted line (Figure 4) represents the smaller size of the U-shape saw cut on the concave side of the septum. As the result of the sawing there is produced a buttonhole with beveled edges through the septum covered by a tongue-shaped flap. From the lower end of the flap and from the portion of the septum upon the concave side below the U-shaped incision the mucous membrane is removed with the end of the saw or a knife, and the flap is thrust through the buttonhole in the septum with the finger tip, so that the parts assume the position shown in Figure 3. The success of the operation depends largely upon the care that is exercised to thrust the flap far enough through the septum to enable its lower edge completely to clear the lower beveled edge of the buttonhole. When this is accomplished the resilliancy of the septum holds the denuded surfaces firmly in contact and there is little or no tendency for the flap to return through the buttonhole and the septum to assume its former deviated position; in fact, the flap tends to flatten out its thin beveled edge in front, behind and below, so that the operation is applicable to nearly all forms of septal deviations, because it allows for redundancy of the septum in practically all directions.

It seemed judicious in each of the seven cases upon whom this operation has been done to guard against accident by giving the parts support at least for a few days by means of a pin, a packing of gauze, or a metal or cork tube of suitable shape. In most of these cases it was clearly not necessary. In one a metal tube was worn for only three days, after which the septum received no further support, as there was not the slightest tendency for the septum to return to its former abnormal position. In this case there is a decided protuberance similar to that shown at A, Figure 3, in what was formerly the occluded naris, but which is now somewhat the wider of the two. It is, of course, easy at a time subsequent to the operation to remove with a saw such protuberances should they exist in either parts. However, the septum which immediately after the operation, of course, appears as if a patch or graft had been inserted into it, in the course of a month assumes a flatter appearance, so that a secondary operation is not required.

After the above was in type, the attention of the writer was called to a paper by Dr. Arthur W. Watson, of Philadelphia, published in the *New York Medical Journal*, October 3, 1896, in which is decribed a similar operation for deviation of the septum.

Watson makes a beveled incision along the crest of horizontal deviations with a knife, cuts out any vertical deviation that may be present, and then presses over toward the wider nasal chamber, the upper portion of the septum, until its edge is hooked over the part of the septum below the cut and retained in position, thus using up any vertical redundancy of the septum. To Watson must be ascribed priority in the practical application of the idea of pushing the upper portion of the cut septum over the lower, and thus allowing, at least in a vertical direction, for the redundancy of the septum, which has been the great cause of failure in operations previously devised.

41 S. Nineteenth Street.

THE TONSILLAR CRYPTS, AS ENTRANCE PORTALS OF PATHOGENIC MICRO-ORGANISMS.

BY J. A. ELLEGOOD, M.D., WILMINGTON, DEL.

The mucous surface of each faucial tonsil presents from five to eighteen orifices, which lead down into blind pouches or pockets called crypts or lacunæ. These invaginations are lined with epithelium, which is squamous on the surface and becomes cylindrical in its deeper layers. The functions of the crypts are as little known as are those of the contiguous lymphoid tissue. Hingston Fox* holds that they act as receptacles for the excess of saliva, which he believes it is the function of the tonsils to absorb. William Hill,† however, regards them chiefly as ducts or reservoirs for phagocytes, which pass into them by diapedesis from the lymph follicles of the tonsils to act as scavengers, and to exercise a protective function by destroying many of the micro-organisms introduced into the mouth by food and air.

According to Delavan, the crypts of largest size are filled more or less with a substance composed of fat molecules, loosened pavement epithelium, lymph corpuscles, small molecular granules and cholesterin crystals. To these may be added numerous micro-organisms of various species. The mouth is exposed to direct infection of micro-organisms which may be contained in the air, food and water. Almost every organism that has been described as growing in any position has been described as growing in the mouth, which in point of temperature, moisture, nutritive material, etc., presents all the conditions best suited to their growth. Indeed, it seems the natural habitat of certain species, which are known as mouth-bacteria proper, since it has either not been possible to cultivate them on any known artificial medium (leptothrix), or, if so, not without losing some of their characteristics (pneumococci). The life processes of some of the bacteria always to be found in the mouth appear at times harmless, and at others malignant, in the sense of being inimicable to the healthy condition of the tissues. The vital phenomena of some of this class, however, as well as of numerous species whose occurrence in the

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Jour. Anat. and Phys., Vol. XX., p. 559.

†*British Med. Jour.*, Sept. 1 and 15, 1888.

mouth is purely accidental are under certain circumstances distinctly pathogenic. It is certain that large numbers of leucocytes pass out between the epithelial cells into the tonsillar crypts, where they undergo disintegration, and the decomposing organic material here found affords a most congenial soil for the myriads of microbes that may gain easy access. It is well known that a considerable number of pathogenic bacteria may exist here without giving rise to disease. This is doubtless materially due to the well-known normal tissue resistance and to phagocytosis. If, however, the mucous membrane has been wounded or its power of resistance diminished or suspended by some pathological condition of a general nature, a culture soil is thus prepared in which these microbes may produce their specific effects. Infection taking place through the crypts may be local—that is, the germs are confined to the tonsils or their immediate vicinity, the chemical poison alone entering the system; and general, in which probably the germs together with their poisonous chemical products gain access to the blood system. The local infectious process may be acute or chronic, the former frequently supervening upon the latter. Acute infection usually gives rise to clinical phenomena of sufficient importance to direct attention to its occurrence. In chronic infection few, if any, of the usual features of inflammation may be present. A history of repeated attacks of acute imflammation of moderate severity may be obtained. The tonsil may not be appreciably enlarged, and the diseased crypts can often be discovered only after careful exploration. They are often found to contain cheesy particles made up largely of leptothrix elements, with which there is always associated numerous other germs. It is probable that crypts enlarged with retention of their contents, or containing these inspissated masses, are in an infected condition, which infection often gives rise to depression of the general health, gastro-intestinal trouble, and obscure reflex phenomena of great variety. The coated tongue, foul breath, bad taste and loss of appetite, generally attributed to disordered stomach, are doubtless often caused by fermentative processes in the tonsillar crypts and independently of the stomach, though the latter is unquestionably often affected by the continued swallowing of the products of putrifaction going on in the tonsil. The reflex phenomena are easily accounted for when we consider the intimate connection of the fifth nerve through the ciliary, spheno-palatine, otic and submaxillary ganglia, with other cranial nerves and with the sympathetic. Chronic amygdalitis is essentially a chronic infection of the tonsillar crypts, and often results in hypertrophy. The demand for increase of function excites enlargement of the tissue by which that function is exercised. The chronic desquamative processes and rarefaction of the epithelium of the lacunæ, described by some authors, are the results of infection. Cheesy particles are seldom found in the tonsils of children, but careful examination will reveal in many instances of hypertrophied tonsils crypts distended with gelatinous material in which microbes abound. Some of these crypts are tortuous, others ampullar, and they cause the lobulated condition of the tonsil, so often found to exist. The progressive changes that take place in all lymphoid structures from birth to adolescence, and the fact that these tissues appear so ready to take on diseased action in early life, make it often difficult to determine in an individual case whether the condition of the tonsils is the result of natural evolution, or if their development has been modified by infective processes. If we assume that in a normal throat the tonsils are visible merely as small lobules of tissue between the palatine folds, on the surface of which the orifices of the crypts are barely perceptible, a large proportion are manifest deviations from the normal condition. Disease may be limited to one tonsil or to a few crypts in that tissue. Bruschke* expresses the opinion that the tonsil without being ulcerated or inflamed may be the point of entrance for pyogenic micro-organisms. He describes several cases to show the connection between diseased tonsils and suppurative processes in the general system, and concludes that in this role they play a more important part than the respiratory and other parts of the elementary tract.

While this may be true of some micro-organisms, the experiments of Buchner† demonstrates that the blood parasites, of which anthrax, malaria and relapsing fever are the most notable examples, pass more easily through the pulmonary tissues into the circulation.

Semon‡ also found evidence that the infecting micro-organisms in septic inflammation of the pharynx gain entrance through the tonsillar crypts, and that their primary localization and subsequent development depend upon accidental breaches of the protective surface through which they found entrance.

A. Viellon§ concludes that pathogenic microbes may be found in all forms of non-diphtheritic tonsillitis. The streptococcus pyogenes was found in all the twenty-four cases examined, and appears to play the most important role. It was usually associated with pneumococci and staphylococci. He believes that the different forms are nevertheless of the same nature, the clinical and anatomical differences de-

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***Dut. Zeits. Fur. Chir.*, Leipzig, 1894.

†*Munch. Med. Woch.*, 1888, Nos. 15–17.

‡*Med. Chir. Trans.*, Vol. LXXVIII.

§*Archives de Medicine Experimentalle et d' Anatomie Pathologique*, Paris, March, 1894.

pending upon the virulence of the organism, the resistance of the tissues, and whether the organisms affected the surface of the mucous membrane, its deeper layers or the subjacent cellular tissues.

Massei* points out what he believes to be the clinical differences between the various forms of non-diphtheritic membranous angina in which bacteriological examination is unobtainable, and assumes thereby to determine whether a given form is streptococcal, pneumococcal or staphylococcal origin. Wolfenden† has shown that there are forms of infective tonsillitis associated with the exudation of fibrin, and the presence of streptococci, staphylococci and pneumococci in such definite proportions as to suggest the inference that each specific organism was associated with characteristic clinical symptoms. He maintained that there was a lacunar tonsillitis and a lacunar diphtheria which could be differentiated only by a bacteriological investigation, since pseudomembranes, in all respects resembling diphtheria, might be produced by other organisms, and albuminuria with glandular enlargement and even paralysis might occur in non-diphtheritic cases. Sendzdiak‡ also states, that histologically the lacunar products presented the same picture as those caused by the Loeffler bacillus, but that bacteriologically they were different. Lemoine§ found the streptococcus in all of the 168 cases of non-diphtheritic angina which he examined, and concludes that anginas in general are of streptococcal origin. So many species of bacteria are found in the crypts, that it is difficult to demonstrate definitely to what extent any special one is a factor in the local pathological condition. Especially is this true on account of the impossibility to acquire a knowledge of the properties of a number of well-known species that exist in the mouth, but cannot be cultivated on any artificial medium. The clinical phenomena of tonsillitis is doubtless frequently due to mixed infection, in which certain infective microbes prepare the tissues for the reception and growth of other pathogenic germs. Diphtheria is regarded as being in most instances an example of mixed infection. That the Klebs-Loeffler bacillus is constantly present in true diphtheritic membranes is generally conceded; but besides this bacillus other forms of bacteria, viz., streptocci, have been found to be frequently if not constantly present in the membrane. It was formerly believed that the formation of the membrane depends upon the specific bacillus; the toxic symptoms, paralysis, etc., are due to the chemical poisons which they produce, and the secondary infections to the cocci which accompany the bacil-

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***Brit. Med. Jour.*, June 1, 1895.

†*Jour. of Laryngology*, London, Aug., 1894.

‡*Jour. of Laryngology*, London, April and May, 1895.

§*Annals de l' Institut. Pasteur*, Vol. IX., No. 12.

lus. It has been shown, however, as previously stated, that a membranous inflammation of the crypts may occur without the presence of the bacillus. Kurchman, from post-mortem examinations of 25 tubercular cases, found that in 12 there was tuberculosis of the tonsils, and in every case in which the cervical glands were affected the tonsils were tubercular. In two cases there seemed no reason to doubt that the tonsillar lesion was primary. He estimates that the tonsils are tubercular in 60 per cent. of the cases of pulmonary tuberculosis. Dieulafoy* states that it has been established both clinically and experimentally that in many cases hypertrophy of the tonsils and adenoid vegetations are nothing but masked forms of tuberculosis, and that the infection of the lymphoid tissue constitutes the first stage. General infection, he states, does not take place in every case, owing to the activity and ultimate effectiveness of the phagocytes. He inoculated guinea pigs with fragments of tonsils or adenoid vegetations, and developed general tuberculosis in thirteen and twenty per cent. respectively. Similar experiments of Wright, Park and Botey, however, gave negative results. Cornil's† histological examinations revealed tuberculosis in a small proportion of adenoid vegetations. He considers that Dieulafoy's inocculations were subject to fallacy, owing to the fact that the bacilli may have entered through the mouth or nose and become lodged in the tonsillar crypts or in the depressions between the lobes of lymphatic tissue, local infection not having really taken place. Tubercle bacilli have been found by Strauss and others in apparently healthy noses and throats, and he has laid stress on the frequency with which the cervical glands have become infected by their gaining entrance through the tonsillar crypts. While it is not probable that infection takes place by penetration of intact epithelium, the frequency with which superficial abrasions and ulcerations occur in these parts, it is not strange that primary tuberculosis should at least occasionally develop here. Nicoll,‡ in an article on the etiology of chronic enlargements of the cervical glands of the neck, expresses the opinion that a large percentage of these cases are of tubercular origin, the tubercle bacilli gaining entrance through the lymphatic structures of the nose and pharynx.

Lenox Brown first called attention to the relationship between tonsillitis and rheumatism, and suggested the septic character of the latter. Wagner§, of San Francisco, offers evidence showing that rheumatism is due to migration of germs from the tonsillar tissue, and not to the ptomaines distributed into the system by those that remained in and about the diseased tonsillar crypts. He has found the same micro-organisms in the synovial fluid of the knee-joint in two instances, and in the urine of nearly all of his cases, as existed in their diseased tonsils, while the family and clinical histories of the patients were free from taint of rheumatism before the attack of tonsillar disease. The intimate association of rheumatism and quinsy has for a long time been a subject of observation. It would be interesting to note whether there is any relationship between chorea and tonsillar disease.

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* *Med. Weekly*, 1894, p. 355.

† *Brit. Med. Jour.*, June 1, 1895.

‡ *Glasgow Med. Jour.*, Jan., 1896.

§ *N. Y. Med. Jour.*, No. 830, 1894.

J. Hughlings Jackson* has called attention to the close analogy which exists between acute tonsillitis and pneumonia.

A. Thouvenet† observed a case of nephritis which he believed to be the result of acute lacunar tonsillitis. He is convinced that many cases of nephritis, which are ascribed to cold, are in reality consequent upon attacks of inflammation of the tonsils which have been overlooked, and that sometimes the nephritis occurs after such an interval that the idea of any relation between the two morbid manifestations is lost sight of. The tonsils may be the point of entrance for the germs in syphilis, lupus, actinomycosis and other infections processes.

The tonsils are but a part of a circle of lymphoid tissue in the pharynx, and what has been said regarding the infection of their crypts applies to a certain extent to the ducts in the lymphoid structures at the base of the tongue, and to the depressions and furrows between the lobes of the pharyngeal tonsil. The depressions sometimes penetrate deeply into the mass of the tissues, and there produce manifold secondary convolutions.

***Med. Standard*, Chicago, May, 1894.

†*N. Y. Med. Jour.*, May 5, 1894.

ACUTE INFECTIOUS PHLEGMON OF THE PHARYNX, WITH REPORT OF CASE.

BY HAMILTON STILLSON, A.M., M.D., PH.D., SEATTLE, WASH.

GENERAL OBSERVATIONS.

Fortunately acute infectious phlegmon of the pharynx is a rare disease. Bosworth recognizes but eleven cases in literature. Besides the cases reported in this paper, the writer would recognize sixty-four cases whose histories have been tabulated sufficiently for definite study.

The disease is usually a rapidly fatal one, arises often from apparently trivial causes, and usually cannot be diagnosed before dangerous symptoms set in. It is, therefore, a very formidable disease.

The most recently published cases are one by William Porter, M.D., St. Louis, in the *N. Y. Med. Jour.* of Aug. 15. 1896. This case he designated as primary erysipelas of the pharynx. Tracheotomy was resorted to, but the patient died soon after. The erysipelas extended up the right Eustachian tube. In that article the author refers to two cases reported by him in 1880 (*Archives of Laryngology*, Vol. I., No. 4). He also refers to a case of Dr. Miller, of St. Louis, in which tracheotomy was resorted to without avail, death ensuing in a few hours.

Another case is reported by R. Boyd Miller, M.D., in the September number of the *N. Y. Med. Jour.* The erysipelas extended up the left Eustachian tube, and out around the external ear. Vigorous treatment saved the patient.

The disease has passed under almost as many different names as the number of cases reported.* Parisot called his case *gangrene of the pharynx and larynx.* Carrington called his case *phlegmonous pharyngitis*, which Bosworth classified as *acute infectious phlegmon of the pharynx.* Mackenzie calls it *œdematous laryngitis*, and describes it in the chapter on "Erysipelas of the Pharynx and Larynx."† Huesinger's case‡ was described as *œdematous pharyngitis*, and its infectious nature was not emphasized. Metzner[*] gives the history of *mycotic inflammation of the tonsil*, which Bosworth thinks was infectious phlegmon. Newcomb includes in his list of cases Ludwig's angina (or, as Ludwig calls it, *gangrenous induration of the neck*), Von Thaden's *submaxillary bubo*, Dumontiel's *sublingual abscess*, Schwartz's *sublingual phlegmon*, Ausilloux's *subhyoid phlegmon*, etc., etc.[†]

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* Vid. "Ludwig's Angina," by James E. Newcomb, M.D., "Transactions American Laryngological Association, 17th Annual Congress."

† Morell Mackenzie, "Pharynx, Larynx and Trachea," 1880, p. 145.

‡ *Deutches Arch. fur Klin. Med.*, 1867, Vol. II., pp. 523-26.

Senator first gave it the name of *acute infectious phlegmon of the pharynx* in 1888.[‡] He was very poorly informed on the literature of the subject, however, for he declared there had been but three cases recorded — two by himself, and one by Cruvelhier in 1860.[§] And Bosworth rejects Cruvelhier's case as being doubtful. Many authors previous to Senator had described this disease. This observation was made by Sajou.[‖] And in his work on the "Pharynx, Larynx and Trachea," Mackenzie gives a history of the disease, mentioning many authors prior to Senator, and even makes reference to Hippocrates himself.[¶]

SYMPTOMS.

But by whatever name we call it, the symptoms are sufficiently definite, the four most characteristic symptoms being as follows:

1st. A "wooden-like" circumscribed induration in the region of the submaxillary gland. This may be unilateral or bilateral. The induration does not pit on pressure. It is always rapid in its development. It is followed by phlegmonous œdema of the neck similar in appearance and touch to phlegmonous erysipelas anywhere else on the body.

2nd. A thrusting upward of the base of the tongue toward the palate, and a crowding downward of the epiglottis and larynx. This renders laryngoscopic examination difficult, if not impossible, but by means of tactile sense the epiglottis and tissues in its neighborhood will be found œdematous. It is, indeed, from the resulting dyspnœa that the patient usually succumbs.

3rd. A "bolster-like" swelling in the mouth between the tongue and the lower jaw, having a deep-red or bluish-red color. Authors differ as to whether this occurs in the substance of the sublingual gland, or simply in the connective tissues around the gland, the gland itself escaping. From the fact that there is always drying-up of the salivary secretions, the functions of the gland are certainly interfered with.

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[*] *Berlin. Klin. Woch.*, 1889, Vol. XXVI., p. 653.

[†] Loc. Cit. Also *N. Y. Med. Jour.*, 1895, p. 652.

[‡] *Berlin. Klin. Woch.*, 1888, Vol. XXV., p. 77.

[§] *Gazette des Hopitaux*, Paris, 1860, Vol. XXXII., p. 107.

[‖] *Annual Universal Medical Sciences*, 1889, Vol. IV., p. E 2.

[¶] Loc. Cit., 143.

4th. Ludwig states that the spread of this induration is so uniform that "it is always bordered by a zone of entirely unaffected cellular tissue."

Of course, with these prominent and characteristic symptoms there are a number of concomitant ones. Anosmia is an early symptom. There is always fever ranging from 101° to 104° F., or more. Usually there are no distinct or at least severe rigors, but there are occasional feelings of chilliness, delirium—at first muttering, then violent—gangrenous sloughing of the mucous membrane of the pharynx and fauces, typhoidal tympanitis and diarrhea, and in my case tetanus and cerebro-spinal meningitis.

ETIOLOGY.

I think it is pretty well established that the disease is erysipelatous in its nature. This Bosworth denies, from the fact that Koch, Langerhouse and Israel, at the request of Senator and Landgraf, all made thorough bacteriological investigation without finding Fehleisen's erysipelas coccus in but one case—that of Baruch. So eminent an authority as Bosworth is not to be ignored, but I cannot refrain from noting:

First, that acute infectious phlegmon of the pharynx and acute infectious phlegmon of the larynx are one and the same disease. They are so considered by Ludwig, Mackenzie, and others.

Second, that Bosworth, in his article on phlegmonous laryngitis, agrees with Budd, Virchow, and others, in considering that disease as true erysipelas of the larynx.*

Third, Dr. Felix Semon, of London, asserts that by a "simple clinical application of general bacteriological principles to a certain group of septic inflammations" we must infer that "acute œdematous pharyngitis, œdema of the pharynx, erysipelas of the pharynx, phlegmonous pharyngitis, and angina Ludovici, are all one and the same disease, differing only in the varying degrees of virulence."

Dr. Semon's view is supported by Dr. Wright, who, in the issue of the *N. Y. Med. Jour.* of Feb. 8th, adds: "Fortunately no one has wearied us as yet by finding a new bacterium." The difficulty is that our bacteriological principles are so very vague and unreliable. We would-be bacteriologists have much to learn in bacteriology yet—Koch among us. And though we may fail to find a particular coccus invariably present in this disease, we must still maintain that, clinically, we may consider the disease as essentially erysipelatous in its nature. It sometimes arises idiopathically, and, bacteriologically, we are thereby at a loss to account for it, but its clinical features remain unmistakable.

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* Bosworth, Loc. Cit., p. 543.

This view is supported by Dr. A. Küttner, who, in Virchow's *Archives*, Bd. CXXXIX.,,Heft I., expresses the inability to explain why "certain micro-organisms would seem in some cases to have a direct etiological connection with certain diseases, yet these same organisms are constantly found in contact with the human organisms under healthy conditions," but that he is nevertheless satisfied that Ludwig's disease is simply another manifestation of the same disease—erysipelatous laryngitis. And Jonathan Wright, commenting on Küttner's views, says: "I believe it will sooner or later be found that all these inflammatory processes (inflammations of the throat) have a common factor, and that micro-organisms associated with them are of secondary importance."

EXCITING CAUSES.

In my case it followed vaccination, and mine is the only case of phlegmon of the pharynx attributable to that cause. In some of the cases it arose idiopathically—without known cause. In Senator's first case the patient was overheated, and upon swallowing a glass of cold beer phlegmon of the pharynx ensued, from which he died. In Landgraf's case the patient had swallowed a large bolus of food. Other trivial causes mentioned among recorded cases are "cold," "carious teeth," "dental neuralgia," and "dental avulsion," while "tonsillitis," "typhus fever" (12th day), and "erysipelas" are also mentioned as causes.

TREATMENT.

The treatment is essentially the same as for acute plegmonous erysipelas of the throat, viz., Aconite, "especially in erysipelas following vaccination;"* sustaining diet; tincture of iron, in quite large doses; early and deep scarification of the œdematous membrane; intubation; tracheotomy.

CASE.

On November 11th was called to see L. M., æt. 7 years; Norwegian; third child; pale; quiet habits; slight build. He had a sore throat. He had been vaccinated on October 30th. Vaccination typical; pit perfect; tissues around point of inoculation not swollen; axillary glands slightly tender; throat slightly swollen and "lumpy" on right side; mucous membrane red, but not angry; temperature 101° F.; had had slight delirium on previous two nights; complained of occasional sharp pains through the head; slight tympanitis; gastric pain; almost total anorexia; bowels constipated; pulse full, rapid and irregular; urine not analyzed, but looked normal in color and amount. Prescribed aconite, copious drinks, punch, egg-nogg. Left word that if not better in the morning I would call. His sister called at my office the next morning to say that he had passed a good night, and was apparently better. I thought my fears in the case were groundless. Prescribed iron and a generous diet, telling them to report.

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*Ringer, "A Handbook of Therapeutics;" Potter, "Materia Medica and Therapeutics." p. 600.

It seems that he improved until the night of November 14th, when, delirium being severe, the child's parents hurriedly called in the nearest physician. This physician assumed full control of the case, pronounced it simple scarlatina (there was slight diffuse redness of the skin at the time), and prescribed "some herbs."

Next day, November 15th, there were severe typhoidal tympanitis and diarrhea. On account of these symptoms, the physician in charge changed his diagnosis to that of typhoid fever. Occasional rigors or slight "chilly feelings" were mentioned as being present at this time.

November 16th: Delirium constant; but by an effort the patient could be aroused into dull consciousness. The parents thought the boy was "hard of hearing."

November 18th: Delirium constant; spine tender; tetanic convulsions and opisthotonus. The physician then declared it to be cerebro-spinal meningitis, and, in spite of the parents solicitations, refused consultation.

November 19th: Assymmetry of the pupils; great swelling of the throat, particularly on the right side; deglutition almost impossible; great hoarseness; dyspnœa; urine scant; occasional involuntary evacuations of the feces; dryness of the skin and mucous membrane.

November 20th: "Yellowish-white membrane" coughed up, leaving the throat raw; throat swelling rapidly; breathing labored. That night (1:00 o'clock A.M., Nov. 21st) the patient died of suffocation. The skin on the neck, arms and chest was discolored with patches of brownish-purple discoloration; left arm not swollen; axillary glands not swollen.

The case is unique in that it is the only one whose cause is directly traceable to vaccination.

ATMOSPHERIC CHANGES AS A DIRECT FACTOR IN THE ETIOLOGY OF CATARRHAL DISEASES OF THE RESPIRATORY TRACT.*

BY HENRY B. HITZ, M.D., MILWAUKEE.

Laryngologist Children's Hospital.

To the mass of accumulated literature upon the etiology of catarrhal diseases of the upper air tracts I desire to add a few facts, the result of clinical observation; and to emphasize, if possible, one important point, but lightly touched upon in text-books, viz.: that of sudden thermo-barometric changes.

In this the region of the Great Lakes, where the prevailing climate is tempered by vast bodies of ice-cold water; where, too, the continental iso-thermal and iso-barometric lines show the greatest irregularities, the physical condition of the atmosphere frequently undergoes sudden and great changes in both temperature and pressure. Especially is this the case in the regions directly contiguous to the Lakes, where in the summer-time the intensely hot days are frequently preceded or followed by chilling fogs that roll in from the waters and envelop the shores at sunrise and sunset. During the winter-time not infrequently the temperature will drop from 30° F. above zero to 20° F. below, in the course of a few short hours, while rapid barometric changes are of frequent occurrence throughout the year. Both of these latter conditions persist, in a lesser degree however, over a large area occupying the northern part of the Mississippi Valley. As trivial as these changes in themselves may appear, it is safe to assume that they are prominent factors in the etiology of primary catarrhal imflammation of the air-passages.

That general disturbances of bodily health, whether acute or chronic, acquired or hereditary, are prominent elements in these inflammations I readily admit, but that they occupy the position generally accorded them I do not believe. Certainly, in nearly 50 per cent. of the cases seen by me, the patients present otherwise clean bills of health. I do not wish to be understood as underrating bacterial or other influences, but it is my firm belief that micro-organisms never find soil for their development except when the vitality of the tissues has been previously lowered.

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*Read before the Milwaukee Medical Society, June, 1896.

Aside from the irritation of such foreign bodies as pollen and smoke or chemical fumes, the manner in which atmospheric changes affect the mucous membrane of the air passages, particularly that of the nose, from its exposed position and peculiar structure, is somewhat as follows: A person living in a home heated to a temperature of 70° F. or more, steps into the street where the theremometer registers perhaps 20° F. below zero, as is frequently the case during our winter months. What happens then? The mucous membrane covering the turbinated bodies, particularly the inferior, immediately feels this instantaneous change of over 90° F. The passage of the intensely cold air over the unprepared mucous membrane blanches the tissue by producing an acute capillary anemia. This is shortly followed by a prolonged reactive congestion, with all that it implies, often lasting for hours.

The tissues may recover entirely from one such exposure, but more frequently it will be the beginning of an attack of acute rhinitis. It is, however, after repeated exposures of this kind, unavoidable in this climate, that we look for and frequently find the early manifestations of chronic rhinitis, and as the disease progresses each stage has its own peculiar symptoms, until hyper-secretion of a more or less serious type, and stenosis, begin to undermine the vitality of contiguous organs, viz.: the naso-pharynx, pharynx, larynx, tonsils, teeth, Eustachian tubes, ears and eyes, and more remotely the deeper-seated respiratory organs.

Somewhat similarly, and yet in a distinctly different manner, is the turbinated mucous membrane affected by changes in the atmospheric pressure. This can be readily appreciated by those who are familiar with the principle of the barometer. It has been constantly observed by the author, that when this instrument shows a lowered air pressure the inferior turbinated bodies appear congested, full and round, and should the nasal passages be at all contracted free respiration is interfered with. Conversely, on fine, clear days the absence of capillary engorgement is pronounced. Not uncommonly patients will remark this difference themselves. These barometric changes, occurring frequently, often several times a day, cause more or less continued congestion of the nasal mucous membrane, lasting for hours, which must of necessity result in low grade inflammatory tissue changes.

Chronic hypertrophic rhinitis, by far the most common of nasal diseases in this climate, is undoubtedly largely due to the prevailing variable thermo-barometric conditions, and when once established, where these variable conditions persist, is of the most intractable nature, often being the forerunner of deeper-seated respiratory diseases, either by direct extension downward or by the deleterious effects of mouth-breathing, necessitated by the resulting nasal stenosis. It would take considerable space to enumerate all of these secondary diseases; suffice it to say that chronic tonsilitis, pharyngitis and laryngitis are the most common, while after having existed for any length of time, alteration in the alveolar arch occurs and the teeth inevitably show signs of decay. Especially is this true of the incisors.

In accounting for this great prevalence of catarrhal affections, it might be well to recall to mind that, within a few generations at most, our ancestors were inhabitants of countries whose climatic conditions were far less variable and rigorous than our own; that they seldom if ever lived in super-heated homes, and hence were never subjected to the same great and sudden variations of temperature; that atmospheric pollution by the smoke and dust of great factories and cities was almost unknown; and finally, that nature in order to equip its creatures for radical changes of environment, or other physical conditions of life, requires the aid of centuries to complete its evolutionary work; we can thus readily appreciate the difficulties under which the exposed mucous membranes of modern mankind functionate. Just as the process of evolution appears to be slowly eliminating from the human system that apparently useless and dangerous organ, the appendix, so, too, we can well believe the same slow process is at work altering and improving the organs of respiration to meet the requirements of our environment and more modern and cosmopolitan life.

In closing, I wish to call attention to a method of treatment in these cases, for the reduction of large hypertrophies, that has been but little used in this country, which is at the same time the most effectual, quickest and best method that I know of, giving the greatest immediate and enduring effects. It is that devised by Mr. T. W. Carmalt Jones, of London, known as the "spoke-shave operation," for partial or total extirpation of the inferior turbinated bodies. (For technique and descriptions, see *Jour. Laryngology, Rhinology and Otology*, December, 1894.)

This instrument has been eminently successful in my own hands in many cases where the galvano-cautery has been several times used ineffectually, and in every case that I have been able to follow have the results justified my high opinion of this method. To those who would argue against this procedure on the ground that thereby the normal function of the turbinated bodies is lost, and that the lower air passages are consequently exposed to disease, I would put the question: is not the normal function of the turbinated bodies destroyed when hypertrophy has become so pronounced as to cause obstruction?

Furthermore, the stump of the removed turbinated body, after healing, appears to be covered with true erectile tissue, so much so that in examining two cases, at least after six months, I would have been surprised had I not previously removed immense hypertrophies, so apparently normal did the nasal cavities appear. So far I have not had one case return complaining of dryness of the throat.

Matthew's Building, Rooms 607-8.

ACCESSORY SINUSES OF THE NOSE.—REGIONAL ANATOMY. —NEW SUGGESTIONS FOR OPERATION.

BY J. H. FARBER, M.D., DAYTON, OHIO.

While our knowledge of the anatomy of the nose is not questioned, yet the summing up of a few points on the location of contiguous sinuses, method of reaching them, and dangers to be guarded against may not be amiss, and to the busy man will save an exhaustive search of Gray's or other anatomies.

The different sinuses will be taken up in order, their general shape and size, with their variations and communications. Starting off then with the floor of the nares, we find quite often that the outlet in front is almost if not quite on a line with the superior surface of the inferior turbinate, and that the scroll turn of the inferior turbinate is below the outlet, and consequently the inferior meatus is not seen from in front. This condition is due, not to the small size of the inferior meatus as compared with other cases, but to an encroachment upon the meatus by the superior maxilla in front. This statement while apparently simple means considerable, for the inferior meatus is not easily cleared of secretion in these cases, and the accumulated secretion is a prime factor in setting up catarrhal trouble of the nose, and easily causing hypertrophy of the inferior turbinate posteriorly and catarrh of the Eustachian tube. The amputation of the anterior end of the inferior turbinate is readily done and the meatus thus opened more freely. These cases cannot be successfully treated otherwise.

THE ANTRUM.

The antrum, in importance greater than the former, will next be considered. The cavity of the antrum is constant, and it is more or less uniform in size in the same subject. Its dimensions are not of great importance; but what is of importance is, that its walls and floor are more or less smooth and regular, differing in this respect from many other bony sinuses, thus making it easier to clean and drain. Its very thinnest wall is the internal one, forming the external lateral wall of the nose. In this wall is found the foramen, almost below the exact center of the middle turbinated bone, measuring from before backward, and in the middle meatus. This opening is rather large, varying from one-fourth to one-half an inch in the skull. A line drawn horizontally through this hole, from side to side of the face, would cut almost the exact center of the cavity of the antrum. For this reason I cannot believe that, where the disease of the antrum is at all prominent, it can be successfully treated through this foramen. This wall of the antrum is exceptionally thin, and great care should be exercised in probing the middle meatus for any cause. The most rational place for opening the cavity is the same as for any cavity, namely, the most dependent part and the safest part. Sometimes we can disregard partly the danger in getting at the most dependent part. For this cavity the best location for puncture is just beneath the inferior turbinate, in front of the opening of the tear duct. Here the wall of the superior maxilla varies in thickness. One skull I examined showed a thickness at this point of almost one-fourth an inch, but nevertheless it was the proper point to puncture, for when made it was exactly on the floor of the antrum, and this site for puncture I believe is the only proper one. It is not necessary to remove a tooth as in the old way; in fact it is absolutely wrong to do so. The size of the puncture should be no less than one-eighth of an inch, and it may be three-eights of an inch. It is not necessary to use a drainage tube; perhaps it is best not to do so. It can be readily opened each day or twice a day for irrigation and injections with but little pain and discomfort. The puncture *can be* made by an ordinary trocar or a specially-made sharp-pointed trocar, without general or local anesthesia. But of course it is painful and chloroform is justifiable in some cases. The dental drill is a convenient and safe instrument for this operation.

I have found that when plenty of time is taken, and great gentleness and not too great display of formidable instruments or rolling up the shirt sleeves and putting pails and great wads of cotton in sight, that many somewhat severe operations are nicely borne by even nervous patients.

THE FRONTAL SINUS.

This sinus is irregular and unsymmetrical, sometimes very large, again quite small, sometimes large on one side, *i. e.*, of the middle line, and small on the other. The prominence of the frontal bone at this point bears no relation to the size of the cavity, or perhaps it is better said that the prominence is no indication of the size of the cavity, for some skulls show an enormous prominence with scarcely any sinus, while others again do not show so great prominence and yet there is a large sinus. One skull in particular presents itself to my mind which had the largest prominence I ever saw. On the right side of the median line there was a most extensive sinus; on the left side scarcely any at all.

The median line of the face does not always cut the dividing line of the sinuses. Nor can these cases be particularly diagnosed. The sinuses themselves, of greater or less size, are constant. Sometimes there is but one continuous and irregular sinus; sometimes the sinuses do not communicate with each other. Usually the largest and most dependent part lies within one-half an inch of the median line. In operating upon the sinus from the superciliary ridge you never strike the most dependent part, nor is it by any means the thinnest wall. Its thinnest external wall is immediately under the ridge in the orbital part, or very near the median line. Its very thinnest wall is at the end of the infundibulum. Now while success follows trephining these sinuses from above, it is principally on account of its favorable outlet, the infundibulum. In other words, the drainage usually is most important for the cure of the disease. (In a few cases the communication with the infundibulum has been difficult to find). Why then should we not enter through the infundibulum? This is the rational way. And if we remember to follow the general direction of the sinus, keeping close to the front of the nose and alongside the septum (within one-fourth of an inch), we will reach the sinus. But it is not an easy thing to do in every case, and much force here is not so desirable, and some skulls have shown that it would be almost impossible to reach the sinus from inside the nose, chiefly on account of the contour of the parts. The best location for external puncture would seem to be just under the prominent margin of the orbit, about one-half inch from the middle line of the face. At any rate this site is perfectly safe.

There are objections to the incision at this point, which, after all, are not serious; the fact that you reach the most dependent part of the sinus counterbalances the œdema of the lid that follows. If the incision above be made, I would also be sure to open the infundibulum. Fortunately the frontal sinus is very amenable to treatment wherever opened.

THE SPHENOIDAL SINUS.

Here in some cases is a remarkable sinus, occasionally of enormous size, even sometimes twice as large as the maxillary antrum, of irregular shape or outline inside, sometimes having a communicating smaller sinus on one or both sides. Its walls are very thin, both its superior or dural wall and its inferior or post nasal wall. The terms superior and inferior are not strictly well used, the sinus reclining so to speak at an angle, its long axis making an acute angle with the vertical line of the body. Now the most dependent part of this sinus is almost exactly on a horizontal line drawn antero-posteriorly through the nose, cutting the sphenoid at its juncture with the lower border of the vomer. Like the frontal sinus, the center of this sinus does not always lie in the middle line, its largest dilatation being sometimes very considerably on one side of the median line, so that a puncture any place else except close to the vomer might miss it altogether. As before remarked, its walls are extremely thin in some, and most cases, and sometimes there is a sort of double sinus, some cases completely so. The second or smaller one lying almost immediately behind the posterior extremity of the superior turbinated bone; and here, when this is the case, its post nasal wall is even thinner than the wall of the main sinus, and this small sinus usually communicates with the main or larger one. Now, it would seem that absolutely the best place to puncture this large sinus is very near the median line or almost against the edge of the vomer and about one-fourth to three-eighths of an inch above the point where the inferior border of the vomer articulates with the sphenoid. The exception to this case would be where *abundant* evidence of disease was present. By opening at the point suggested, there is but slight danger, and if the cavity is there you will not miss it and you will have opened it at its most dependent part as near as may be. Fortunately this sinus is not frequently diseased, as ordinarily its closure is complete, or practically so. The intimate relations it has with the optic commissure and the nerves and blood vessels of the eye, on its dural surface, suggest the many possible complications that might arise in diseased conditions.

THE ETHMOIDAL CELLS.

Here we have the key to the sinuses. Here is most frequently the source of the antral, frontal and sphenoidal diseases. The anterior cells are two or three in number. The first one, frequently the smallest, lies immediately behind (external to) the anterior end of the middle turbinate; in one case both the first and second cells were opened on removal of one-half inch of the anterior end of the turbinal, the cell extending into the turbinate itself. The second cell, usually the largest, lies immediately back of the first, and extending up in the lateral mass to the cribiform plate. Here it becomes dilated or sacculated and communicates with the infundibulum. Sometimes the first cell communicates with the infundibulum and also the second. Sometimes the first cell is the largest and leads up into the cribriform plate. But in either case the best point for opening is *not* through the infundibulum.

The plane of these cells lies upon a line drawn vertically parallel with the external wall of the nose. Or if you would imagine a triangle with its base the floor of the nose, its sides the external walls of the nares behind (external to) the scroll of the turbinate, and its apex about one inch above the cribriform plate, and imagine this triangle inside the nose so that its sides would lie one-half an inch back from the anterior end of the turbinate and inclined parallel to the plane of the face, its sides would cut the anterior cells.

The dural or brain surface of the cribriform plate is about one-half an inch above and one inch back of the lachrymal sac. And the distance from the nose outside to the first anterior cell is from an inch to an inch and a half, so that to puncture the cell from the inside of the nose it must be just above the level of the lacrymal sac and about one-half an inch back of it. The puncture can be made after the removal of the anterior one-half inch of the middle turbinate. In acute or chronic cases you can make the puncture at the same time. Some operators wait until the wound of the turbinate heals. Others claim it bad practice to do so on account of the purulent discharge dripping over the cut surface. But this discharge has been accumulating on the middle turbinate for some time with scarcely more injury than an excoriation, and you certainly get good drainage as soon as the turbinate is removed. On account of the fact that the secretion is found upon the turbinate you would naturally look for other sources of the discharge, and not infrequently it will come from the infundibulum or from the anterior cell high up, or the frontal sinus or the posterior cells. But even in these cases, I would say it was good practice to remove the end of the turbinate, if for no other reason than to prevent accumulation of secretion.

THE POSTERIOR ETHMOIDAL CELLS,

Two or more in number, are much larger than the anterior. They communicate sometimes with the anterior cells, sometimes with the sphenoid, sometimes with the superior meatus, and always with each other. From their size and location it would seem that they would be more liable to disease than the anterior cells. They lie behind (external to) and beneath the superior turbinate, the largest being usually immediately behind (external to) the posterior end of the superior turbinate. It can be punctured from the superior meatus under the scroll, close to the posterior end of the superior turbinate, the point directed slightly outward, backward and upward. A large cell sometimes lies lower down and farther back, alongside and slightly in front of the sphenoid sinus at its upper part. This cell can be punctured by following along the superior surface of the middle turbinate to its posterior end, the point of the instrument directed backward, upwards and outwards from the junction of the posterior end of the middle turbinate with the external wall of the nose.

THE OPENINGS IN THE NOSE.

The Naso-Lacrymal Duct.—Its usual site is given beneath the inferior turbinate one-half an inch from its anterior end. But it opens frequently into the middle meatus above the inferior turbinate and sometimes about the middle of the middle meatus, sometimes almost horizontally from its sacular dilatation, frequently enough in the middle meatus to cause you to be on your guard for such a case, and its wall is very thin in all its lengths, except at the junction of the inferior turbinate and wall of the nose, and a puncture may be somewhat easily made in dilating a stricture. It also encroaches upon the antrum of Highmore, and in probing you might easily enter it. One skull showed the opening of the duct and the antrum in common in the middle meatus.

The Infundibulum.—It is a triangular-shaped concavity in the most anterior part of the roof of the nose, lying close to the middle line, and extending about one-half an inch upward and backward, at an angle of about forty degrees, to or near the base of the frontal sinus, with which it usually communicates; sometimes you cannot find the communication. It also communicates with the top of the first or second anterior ethmoidal cell.

It is well in cutting off spurs low down on the septum at the nasopalate process of the superior maxilla to look out for the anterior palatine canal.

In summing up, it seems to me that in one operation in particular, viz.: puncture of anterior ethmoidal cells, you can scarcely be successful unless you remove the anterior one-half inch of the middle turbinate.

THE INSTRUMENTS.

Those mentioned have been endorsed by many writers, but I prefer a long-handled gimlet or auger, not made as the ordinary gimlet, but more like a steel drill for boring iron. This instrument, in two sizes, or in two lengths, the bit the same size, one-fourth to three-eighths of an inch, will please the operator, adapted to opening the antrum, the sphenoid and the ethmoid. In opening the frontal sinus from without, I prefer the chisel and mallet.

32 West Fifth street.

ANTERIOR SOFT HYPERTROPHIES OF THE NASAL SEPTUM.

BY EDWIN PYNCHON, M.D., CHICAGO, ILL.

Attending Surgeon for Diseases of the Nose and Throat at Clinic of the Illinois Medical College; Assistant Aural Surgeon to the Illinois Charitable Eye and Ear Infirmary.

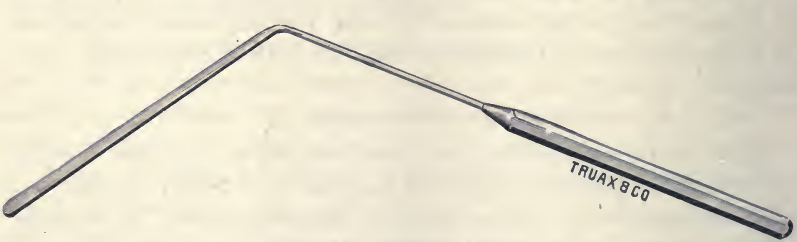
Deformities of the nasal septum are deservingly recognized as ranking first in importance among the causes productive of nasal catarrh in many of its several varieties. The most commonly met with of the septum deformities are:

Firstly—Deflections, either simple or serpentine in form, and slight or great in degree.

Secondly—Thickenings of or growths upon the septum, either bony or cartilaginous in character. And

Thirdly—Perforations.

The object of this paper is to emphasize the importance of directing both attention and treatment to another form of septum trouble not infrequently met with, which I have chosen to denominate as anterior soft hypertrophies. When present, this condition will be found near by or opposite to the anterior end of the middle turbinated body. While sometimes it is observed upon an otherwise normal septum, it is more often associated with one or more of the previously-mentioned septum defects, and in such case tends to magnify the importance thereof, both structurally and pathologically. The diagnosis of this condition is attained by the use of a thin steel nasal spatula, with which pressure can be made, and with this properly directed the soft growth can be materially depressed away from the opposing turbinal, so that space is created where before slight pressure existed. After



Steel Nasal Spatula (½ size).

the parts have been cocainized this soft, bulging mass will be found to have not materially reduced in size, thereby proving that it is not due to turgescence or hyperæmia, and that it is a condition of chronic relaxation, or, in other words, a true hypertrophy. In extent it may vary from one-half to one-and-one-half inches in length from before backward, often extending well into the superior meatus, and in width one-half inch or less from below upward. While more often unilateral, it has in several cases been observed upon both sides of the septum, though differing in degree. In color these growths are reddish, or the same as that of the adjacent mucous membrane, in contrast with the soft hypertrophies at the posterior end of the septum, which are invariably white.

Thorough ventilation of all parts, and particularly of the attic of the nasal passages, is one of the desiderata of perfect nasal respiration; as it is through evaporation alone that the nasal serum can render humid the inspired air, and whenever opposing surfaces touch each other the free circulation of air is impeded, and the nasal secretion instead of being evaporated is retained, and soon converted into a catarrhal discharge, which by its irritating properties, due to partial decomposition, causes the mucous membrane at the points of contact to become still further thickened and more inflamed, until the secretion itself as formed is abnormal.

The principle of treatment, which we may say *en passant* is broad enough to apply all along the line in intra-nasal surgery, is to correct the abnormal contact of opposing surfaces, so as to permit of the unobstructed circulation of air through all parts of the fossæ; hence the indication is to destroy such soft hypertrophies as those of which this paper treats, and in practice I have found as a reward the satisfactory results which the theoretical indications promise.

Conditions such as are here described, while generally of importance only as structural causes of nasal catarrh, may be extensive enough to produce additional complications—as, for example, impairment of smell, neuralgic headache from nerve pressure—in this the most sensitive region of the nose, and other neurotic reflexes, as sneezing, cough, etc.

The treatment is as simple as any rhinological procedure which the nasal surgeon is called upon to follow, and consists in the making of two, or more often three, parallel incisions with the electro-cautery point, reaching from rear to front of the bulging tissue. It is my experience that the cauterization had better be deep, each line being gone over a second time, and the lines being about one-eighth of an inch apart. No unfavorable reaction or result has been met with, and on about the third day a large slough, an inch or so in length and three-eighths of an inch in width, is removed. Increased freedom in respiration is invariably experienced. During the operation care is of course taken to avoid burning the turbinal; and it has been my custom after the operation to thoroughly anoint the parts with a twenty-per-cent. solution of camphor-menthol in lavoline.

I will close by reporting one case wherein a marked benefit was derived from this operation, it being my first experience therewith.

November 8th, 1892, Miss T. H. placed herself under my professional care. Her most pronounced symptoms were susceptibility to coryza and hoarseness, and a chronic bronchial cough of long standing. She stated that she "easily became tired out, and suffered from a lack of ambition." She had a badly-coated tongue, and gave a history of constipation. Examination revealed the usual number of nasal hypertrophic obstructions, and their common concomitants, pharyngitis and laryngitis. She had for some time been under the care of specialists of good standing.

I began in the orthodox way, by removing all observable nasal deformities, and next, by electro-cautery dissection, her tonsils, which were of the small, diseased variety, never becoming actually inflamed, but ever discharging that characteristic, chronic, lacunar, cheesy secretion. In other words, the line of treatment was to remove all hypertrophied or diseased tissue, and cause the nares, naso-pharynx and fauces to assume as nearly as possible the *form* of the ideal model.

After each step, during about five months of irregular treatment, the patient experienced increased relief, until most of the symptoms vanished, except the cough, and even this was somewhat modified. During the last month, at my suggestion, she was treated for the cough by a specialist in pulmonary troubles.

July 8th, 1893, she reported: "General health much better; bowels more regular; and not feeling so tired after exertion; no more soreness of throat or coryza since treatment, but the bronchial cough continues much the same." By laryngoscopic examination, while the vocal cords appeared normal, there still remained an abnormal redness of the glottic mucous membrane. She expressed a hope and belief that I would find some other abnormality, which, if corrected, would finally cure the cough. Four days later, after a most searching examination, I discovered in her left naris, high up in the attic, an extensive soft growth upon the septum, such as has been described. Three days after the cauterization the slough was removed, and from that time on there was a progressive improvement of the cough symptom.

August 5th, reported: "Feeling fine; no more bronchial cough;

nothing but a slight expectoration in the morning from the little post-nasal discharge still remaining." For the relief of this, the following January (1894), I cauterized in the attic of the right naris a soft hypertrophy similar to, though smaller than, the one in the other naris previously operated upon.

December 20th, 1894, reported: "Comparative freedom from colds, where formerly cold lasted all winter; no recurrence of cough; feeling in all ways very much better."

Columbus Memorial Building.

CORRESPONDENCE.

Editors of THE LARYNGOSCOPE:

On my return to town a few days since I saw for the first time Dr. Payne's somewhat impulsive criticism of the Bosworth Saw, and of Dr. Black's endorsement of it in his paper in your July issue. Dr. Payne says that "the Bosworth Saw has its teeth set forward, and cuts on the push." That his criticism should have been of his instrument-maker rather than of the saw is easily seen from the following extract taken from the original paper in which the saw was first described (*N. Y. Medical Record*, Jan. 29th, 1887):

"The blade to be as thin as possible consistent with strength, an eighth of an inch in width, five inches long, with a cutting edge of three inches, thirty teeth to the inch. Each tooth an exact equilateral triangle, with no cross cut or set to the tooth, the handle being three inches long, and attached to the blade at an angle of forty-five degrees."

As you see, I was rather careful to describe the instrument which, after long experiment, I found would do the work in a cleanly and unhesitating manner; in other words, one which would neither "hang, break nor bend."

It may be of still further interest to note the full title of my paper, as follows:

"Deformities of the Nasal Septum. A New Operation for their Correction, with an Analysis of its Results in 166 Cases, as Throwing New Light on the Pathology of Diseases of the Upper Air Tract, and their Relation to the So-called Nasal Reflexes."

At the time of this publication our only treatment of deflection of the septum practically consisted in breaking down the angular projection by means of a pair of forceps, forcing the fragments into their proper alignment, and then maintaining them in position by means of some form of plugs. The affection was really, in the main, treated as a deformity to be rectified on orthopædic principles. Curiously enough the procedure was taught us by an orthopædic surgeon, and was called "the Adams operation," after its originator.

The saw was devised to remove the projecting portion of the septum, and thus to restore patency to the nasal passage.

A still further principle advocated in the paper was that nasal obstruction, by abolishing or seriously hampering the important physiological function of the turbinate bodies in respiration, was the efficient cause of catarrhal disorders in the air passages below. Thus laryngitis, trachitis and bronchitis, as well as ear troubles, were in most cases secondary to and dependent upon some intra-nasal disease, which interfered with this respiratory function of the turbinated bodies. Hence the prominent indication in treatment was not merely to open the nasal passages, but to restore to the turbinated bodies their functions. The saw was devised with this intent. Its special form was not important as long as it performed its work, whether by electricity or muscular action. The blade is the essential thing, and in this I feel much flattered that Dr. Black holds to the view that the original instrument has not been improved upon.

Very truly,
F. H. BOSWORTH.

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EDITORIAL.

VOLUME I., NUMBER 1.

Unfortunately we did not reserve enough of the initial number of THE LARYNGOSCOPE, and now find ourselves with but two copies, and still receiving requests for subscriptions to be dated from volume I., number 1.

If any of our friends received two copies of our July issue, will they kindly mail us their spare copy? We would also request our friends to mail us the names of their friends whom they think will be interested in seeing a copy of this publication.

PROPHYLAXIS.

Extensive disease of vital structures, so frequently observed in our special clinics, prompts me to emphasize the importance of giving due attention to these organs in practical undergraduate instruction.

When we recall the number of individuals ostracized from the useful class of mankind because a local affliction was left to heal by nature, it behooves us to impressively enlighten the ignorant, and thus probably save many from a similarly pitiable fate.

Intelligent care of the new-born is of considerable aid in molding a constitution so that same may be able to brave the vicissitudes of after-life. Proper attention to dress in early life is an important factor in hardening the individual. At this early period the child is apt to be bundled up and overclothed. We must always remember that the external epithelial structures are in perfect harmony with those of the internal tissues, and this relationship ought to be maintained in an agreeable manner. By overdressing we weaken the external resistance, and thus expose the economy to frequent catarrhal attacks. To avoid this susceptibility, we should accustom the child to receive cold douches as a prominent feature in its daily toilet. Scant but sufficient clothing should be worn. Exposure of the neck and head should be practiced. Overfeeding should be guarded against, as derangement of the gastro-intestinal tract is a prolific source of irritation to the upper air-passages.

We must be ready to recognize the various complications occurring during an eruptive or any other disease. This is of special moment, as measles and scarlet fever usually offer the great majority of aural sequellæ. In such instances regular attention to the nose and throat must be carried out, so that any inflammatory process may be kept in check. The method of cleansing must be well considered; much harm has been done by douching these tender parts with a forcible stream. Atomization is a pleasant and serviceable manner of removing foreign matter from these cavites, and at the same time is devoid of danger to adjacent parts. An oily solution may be employed, which may contain any of the numerous essential oils that possess antiseptic and soothing properties. If, however, the ear should become affected during such an illness, prompt local treatment should be applied. Nonchalant attention at such a time may result in serious and even fatal complications. If symptoms arise which cannot be explained by the original affection, we must never fail to examine the organs of special sense. Here the importance of practical undergraduate instruction is vividly demonstrated.

It is only of recent date that the subjects of laryngology and otology have been given proper consideration in our undergraduate institutions. The rapid strides of medical science, and the concomitant advance of laity independence, demand a more extended period of clinical instruction, and the addition of a year to the former curriculum of our modern medical institutions gives more time for the practical instruction of these subjects. Systematic and individual work must be performed by the student. Teaching *en masse* is most unsatisfactory. An intelligent examination of these parts is not as simple as it may seem at first blush. Proper illumination is the first element in arriving at a proper diagnosis. My experience with under- and post-graduates leads me to believe that the adjustment of a head-mirror is not by any means a subject to pass over in a superficial manner. Section-work in these branches should be made obligatory, so that we may offer to the community at large a physician fully able to appreciate the dangers lurking near.

Careful inspection of adjacent tissues must always be practiced, for not uncommonly the exciting cause may be found situated some distance from the existing trouble. Post-nasal vegetations frequently cause suppurative disease of the middle ear. They may give rise to hoarseness, cough, spasmodic croup, chorea, enuresis, inanition, and other troublesome symptoms. Diseases of the nose frequently produce secondary changes in the other portions of the economy. So that examination of these parts must not be forgotten.

The dire consequences of neglect must be pointed out to those who are inclined to view such affections lightly. Prompt surgical methods should be advised when indicative symptoms appear, and too much time should not be lost in palliative medication. We are always justified in performing an exploratory operation, under our present system of antiseptic training, when masked symptoms persist. Rather a few weeks too early than a moment too late. Though a firm believer in conservatism, I never hesitate to promptly employ radical measures when indications arise.

Much good may come from systematic examinations of school children. In this way latent disease may be discovered and treatment advised, thus saving the young one from a chronic affection, which not only handicaps the child in early life, but if left without skillful treatment will probably cause much misery and deprivation. As a rule, treatment to special organs should be attempted as early as the deviation from the normal is discovered. By following out this line of thought, we may in many instances intercept prolonged suffering and discomfort, and thus assist materially in giving the afflicted one a chance to become an active member of society. M. D. L.

GRATUITOUS SPUTUM EXAMINATIONS BY THE LOUISIANA STATE BOARD OF HEALTH.

Following the example of the Boards of Health of New York, Philadelphia and St. Louis, the Bacteriological Department of the Louisiana State Board of Health has, by authority of the Board, issued the following circular letter to every medical practitioner in the city of New Orleans:

"In view of the importance of a bacteriological examination in a large proportion of cases of confirmed or suspected tuberculosis, as regards the diagnosis, prognosis, treatment and prevention of this disease, the Board of Health has decided, in connection with its diphtheria service, to establish a service for the gratuitous examination of the sputum of cases of pulmonary consumption, or suspected pulmonary consumption, under the following regulations:

"The sputum must be collected and prepared according to the directions found below, and properly forwarded to the Bacteriological Laboratory. The data asked for in the form accompanying specimen bottles must be furnished in every case. Those data, properly recorded and kept, will furnish, in the course of a few years, valuable statistics.

"It is for this purpose only that the Board must insist that they be as exact and thorough as possible, and make the compliance with its wishes in this respect a condition of the examination. The results of the examination made will be given to the attending physician only, and without charge, as promptly as possible by mail or telephone.

DIRECTIONS:

"Sputum should be collected only in clean, wide-mouthed, well-stoppered bottles, with a capacity of from two to four ounces. Suitable bottles are supplied by the Bacteriological Laboratory, and have been placed in some of the principal drug stores, as per appended list, for the convenience of physicians desiring to make use of them. Care should be taken that bronchial, and not pharyngeal secretion, is collected. The expectoration discharged early in the morning is preferred. If the expectoration is scanty the entire amount in twenty-four hours should be collected. The bottles must be tightly corked, and, with the information called for in the blank form furnished by the laboratory for that purpose, returned to the drug store where same was obtained. The results of the examination will be given as promptly as possible by mail or telephone."

The Bacteriological Department of the Louisiana State Board of Health has done excellent service in the past two years in making bacteriological examinations in cases of suspected diphtheria, and the effectiveness of its work has, no doubt, had great influence in the marked reduction of this infectious disease in New Orleans. The gratuitous examination of sputum in cases of tuberculosis or suspected tuberculosis will prove a great convenience to the practitioners of

New Orleans and of other parts of the State, and the information obtained by the Board regarding the age, sex, color, occupation, etc., of the affected subjects will, no doubt, furnish valuable material for statistics, which may be of great service in the future in the consideration of tuberculosis from a hygienic standpoint.

We commend the enterprise of the Louisiana State Board of Health, and the zeal of Dr. Archinard in charge of the Bacteriological Department. W. S.

SELECTIONS FROM CURRENT MEDICAL PUBLICATIONS.

RHINOLOGICAL.

Reflex Disturbances of Nasal Origin.

Dr. Masucci (Naples) states that the study of reflexes is an essential complement of anatomy, physiology and pathology, and that it is destined to give us the key to many physio-pathological phenomena which have been, until recently, veritable enigmas. (*Révue Internat. de Rhin.*, *Otol. et Laryng.*, Sept., 1896.) He refers to the researches of Hack, Ziem, Nied and other well-known observers who have obtained such brilliant results in this connection, especially with regard to asthma of nasal origin.

He then reports the following cases of nasal reflexes observed in his practice:

Case I. A little girl suffered from nocturnal enuresis and from chronic hypertrophic catarrh of the naso-pharynx; the latter being cured, the enuresis ceased. The cure of the euuresis may be explained by the fact of the re-establishment of the oxygenation of the blood, the slow intoxication by carbonic acid having set up an injurious excitation of the bladder.

Case II. A young girl of 15 years, affected with hypertrophic rhinitis, suffered at the same time from metrorrhagia. When the rhinitis was cured, although imperfectly, the uterine functions became normal.

Case III. A young girl was affected with light exophthalmos and swelling of the thyroid gland, the case having been diagnosticated as Basedow's disease. As she complained of difficulty of nasal respiration, a rhinoscopic examination was made and showed the presence of numerous polypi in the left nasal fossa. The polypi having been removed, the exophthalmos and the goitre slowly disappeared.

In this case there had never been any cardiac symptoms. We must admit that an irritable condition of the peripheral terminals of the sympathetic in the nasal mucosa are capable of provoking symptoms which resemble those of Basedow's disease, or, at least, of a degenerate form (?) of that affection. It is in reality, in his opinion, a case of direct reflex.

Case IV. A young man was affected with a rebellious exudative pharyngitis, and suffered besides from an irritation of the peritoneum, which became worse whenever the pharyngeal secretion increased. All the treatment, which had been directed to the abdominal symptoms, was unsuccessful until the pharyngitis improved. He also believes this to be a case of reflex.

He could quote many cases of nasal asthma and reflex anosmia, etc., but such cases are too well known. He concludes by stating that there are many reflexes, as between the pharynx and the peritoneum, between the thyroid gland and the nasal mucosa, between the heart and the throat, which have not been satisfactorily explained, but whose existence are indisputable facts. We must, therefore, make the most critical examination of each case, classify it, and await the time for a scientific explanation. W. S.

Recurrent Erysipelas of the Face.

Dr. H. Lavrand (Lille) states that it is not necessary to discuss the difference between traumatic and spontaneous erysipelas, as both are due to an infection by the same micro-organism—the streptococcus of Fehleisen. (*Revue Hebd. de Lar., d' Otol. et de Rhin.*, Sept. 5, 1896.)

Erysipelas of the face is a disease of great frequency, and especially spontaneous erysipelas, as it is rare to see a single attack, there being more often several in the same individual. He believes that these attacks are most frequently of nasal and pharyngeal origin, and, from a study of nine cases, which he reports, arrives at the following conclusions:

1. In most instances, spontaneous recurrent erysipelas of the face develops from the nasal fossæ through the lachrymal duct or the nostrils.

2. The point of departure (whether from the penetration of germs or the revivication of such germs lying dormant in the tissues) is either in the nasal fossæ or, more frequently, in the more or less hypertrophied adenoid tissue of the pharyngeal cavity.

3. The preventive and also the curative treatment of recurrent erysipelas of the face consists in taking care of the nasal and naso-pharyngeal cavities, but especially in reducing the adenoid tissue in the pharyngeal vault, which appears in the forms of adenoid tumors, or only in the form of granulations, which the surgeon must remove even from between the Eustachian cushions. In this manner, a port of entry is removed and the too favorable soil for the culture of the streptococcus. W. S.

Two Interesting Nasal Cases.

CASE I. *Primary Nasal Syphilis.*—This affection was observed in a turnkey of a police station (Ellwood Matlack, Phila., *N. Y. Med. Journal*), whose duties brought him in contact with the lower classes. For nine weeks the patient noticed a slight bloody discharge from the right nostril, with difficulty in breathing through that side. Examination showed an ulcer with infiltrated edges on the anterior end of the inferior turbinal, and extending along the inner surface of the ala to within a short distance of the muco-cutaneous junction. It was covered with a slough. Escharotic treatment proved unsuccesful. The ulcer extended and became phagedenic, causing swelling of the submaxillary glands, and a marked prominence of the external surface of the nose. Full doses of mercury were given, and the ulcer disappeared in four weeks.

CASE II. *Nasal Cystoma.*—The patient, a female, complained of nasal obstruction and aural catarrh with tinnitus. Pain, referred to the left malar bone and lower edge of the orbit, was a prominent symptom, together with an intermittent, unilateral nasal discharge. The pain increased in severity until a discharge of straw-colored fluid appeared from the affected side, when the symptoms disappeared. On inspection, a cyst attached to the end of the middle turbinate was discovered, extending over and at times covering the pharyngeal opening of the Eustachian tube. The mass was removed, and recovery promptly took place. Three months later there was a recurrence.

M. D. L.

A Case of Actinomycosis of an Osseous Form of the Inferior Maxilla.

The disease appears to have had its development from the center of the maxilla, and commenced with a necrosis and an abundant proliferation of the periosteum, in a young man of 26 years. (Dr. Fevrier in *Revue Hebd. de Lar. d' Otol. et de Rhin.*, Sept. 12, 1896.) The beginning of the trouble dated back three years; he had, at first, pain around a carious molar; this was removed, as also the adjoining molar. The pain, however, persisted in spite of the removal of the teeth, and there soon developed an abscess near the point of implantation of the two extracted teeth.

The pus discharged from the abscess, and the neighboring teeth fell out, but the wound did not close; the jaw during this time was very much swollen.

An examination showed within the opening, which was surrounded by a thin fungosity, a long sequestrum and a quantity of pus, of an infectious odor, which contained a number of yellow, blackish particles. These particles, examined under the microscope, were found to be actinomyces. W. S.

Non-Fetid Ozena.

Dr. C. H. Burnett (*Phila. Polyclinic*) calls attention to the fact that the absence of bad odor in atrophic nasal catarrh is a clinical disadvantage to the patient, because the true nature of the nasal disease may not be suspected, and therefore the proper treatment not applied by the general practitioner under whose care they may be.

Evil Effects of Nasal Operations.

Dr. H. A. Alderton (*Brooklyn Med. Jour.*) while discussing a paper on chronic nasal obstruction calls attention to the fact that middle ear troubles are frequently established by incautious operative procedure in case of adenoids or posterior hypertrophies; also, that long-continued treatment of the nasal mucous membrane with astringent or irritating remedies often produces subacute affections of the Eustachian tube or in the middle ear.

Ætiology of Deviations, Spurs and Ridges of the Nasal Septum.

In a very interesting paper on a subject (John O. Roe, Rochester, N. Y., *N. Y. Med. Journal*, Oct. 10, 1896) which has repeatedly attracted the attention of the specialist, the author divides the causative factors into two classes, *i. e.*, predisposing and exciting.

Diathesis he mentions as an important predisposing cause, and states that such deformities are frequently observed in individuals suffering from either the strumous, syphilitic, tubercular or rachitic taint. Racial characteristics is also given as being a factor in the production of these malformations. Increased development of the cranial mass assists in rotating the septum on its perpendicular axis, and so causes same to assume an angular position. Europeans and Americans are more frequently affected in this manner, while the savage races are seldom subjected to these irregularities. The purer the race the less frequently are deflections of the septum observed. The greater the degree of admixture the more often is this peculiarity noticeable.

Exciting causes of septal deflection may be either internal or external. Defective development, diseases of the septum, and diseases of other parts of the nose, come under the head of the internal division. Defective development of the plates of the vomer give rise to deviations of the septum. This pathological condition may result when ossification of the septum proceeds from centres situated in two different bones, and the ossific deposits do not meet in the same plane.

Ossification begins in the posterior portion of the septum, and this fact accounts for its usual good position at this location. Hypernutrition and a diseased state of the septum may result in spurs and ridges, and these are generally found along the articular surfaces of the septum. Diseases of the turbinated bodies are mentioned as a cause, though the author believes that the hypertropied turbinal, usually found on the concave side, is the result and not the cause of the deflection. He thinks that the hypertrophy is a compensation of nature for extra work. Obstruction of the anterior portion of the nasal cavity is mentioned as a cause of deviations. Rarefaction of the air behind the obstruction takes place, and the increassd atmospheric pressure, acting upon the septum from the opposite side, forces it from the median line. The principal external exciting cause is traumatism. Other external influences are: habitually blowing the nose with the same hand; the habit of inserting the finger into the nostril to remove scabs, etc. Heredity must not be overlooked as an important predisposing cause. M. D. L.

Methods of Diagnosticating Diseases of the Antrum of Highmore.

Dr. Frank S. Milbury, in *N. Y. Med. Journ.*, October 17th, reviews the various methods employed in the diagnosis of antrum disease; he refers to the puncture with a straight trocar through the inferior meatus, followed by irrigation for detection of pus; exploratory puncture through the alveolar arch; irrigation through the natural orifice; detection of the characteristic creamy, lemon-yellow pus, without the accompaniment of any ulceration or nasal inflammation, unilateral, and pus offensive in odor. These methods are all good, writes M., but the most feasible and practical way of diagnosis is by electrical illumination. The electric light, as contradistinguished from the other methods cited, has been found a convenient, painless, and reliable diagnostic measure in antral disease and other sinuses about the head and face.

The light used for illumination is a one to three candle-power incandescent lamp, with the handle so arranged that the current may be turned on or off at will. The room must be absolutely dark. The lamp is introduced into the mouth; the lips and nostrils then closed; current contact is then made.

"The points of diagnosis in illumination of the antrum are in appearances under the lower eyelids, over the antral sinus; if healthy, a large, triangular light spot is seen, and, if clearly shown, we may be quite sure of a sound antrum. A more subdued illumination exists over the whole cheek and lips. In well-developed antral disease, the whole area of the antrum is in the deepest shadow. Sometimes in health the central area is dark, but this is very rarely the case."

"The lamp may also be used for diagnosis of nasal affections, placed in the mouth and the nasal speculum used. The frontal sinus may be illuminated by placing the lamp under the orbital ridge, and in disease a dark shadow is formed. The normal tissues in these regions, in persons of all ages, are transparent, as is proved by the light; in disease, no doubt, the umbra is caused by the hypertrophied condition of the mucous membrance and not the presence of fluid in the sinus."

M. urges puncture through the anterior wall of the sinus at the canine fossæ as, the best method and point for opening and treating the maxillary sinus. The lip is well retracted and a conical incision made down to the bone. The soft tissues are retracted, clearing an area of about $\frac{5}{8}$ inch diameter. A large burr and dental engine are used to drill the perforation through the bone, and the opening enlarged by small chisel to desired size. Hemorrhage may be excessive, but is easily checked by temporarily packing the sinus with gauze. The opening is made flush with the flow of the sinus, and curettement, tumors, breaking down of sæpti, etc., is then undertaken. The cavity is then flushed, and a drainage-tube placed along its floor, and allowed to remain a week or two. Subsequent repair is always perfect.

Malignant Disease of the Nasal Cavity, Showing the Value of Early Diagnosis.

Dr. J. H. Shorter, in *Jour. Am. Med. Ass'n*, September 19, directs attention to the difficulty occasionally encountered in differentiation of some forms of the benign from malignant tumors of the nasal cavity. He cites a case where, upon examination, a large polypoid growth was located in the upper part of the left nasal cavity, presumably springing from the ethmoid. A piece of the tumor was removed, microscopically examined, and pronounced *carcinoma*. Radical and complete removal of the growth, if possible, was urged.

The patient passed to other hands, and a diagnosis of *syphilis* was made. Patient failed to improve under vigorous anti-syphilitic and tonic treatment. The patient then consulted an eminent New York surgeon, who had sections of the tumor made, and it was pronounced a *non-malignant fibroma*. The growth was removed by section below the orbit, resection of the molar and part of the superior maxillary bone, and a complete recovery promised. About three weeks later the tumor reappeared, and the patient died at the expiration of three months, with probable extension into the cranial cavity. There was headache, paralytic trouble, and great exophthalmia.

Meningo-Encephalitis Consecutive to an Exploration of a Supposed Frontal Sinus.

Dr. Mermod reports the following interesting case: A man of thirty-six years, who had undergone the successive opening of the right maxillary sinus of the left sphenoid sinus of the right anterior and middle ethmoidal cells, on account of a chronic suppuration of these cavities, was affected with a cephalgia of the right frontal region, which diminished after a free evacuation of a clear non-purulent liquid. (*Ann. des Mal. de l'Oreille, du Larynx*, April, 1896.) Under the supposition that it was an affection of the right frontal sinus, a flexible sound was introduced, which penetrated a large cavity resembling an enlarged frontal sinus.

A second exploration, made under the same conditions, to the depth of 6½cm. measured from the entrance of the nostril, was followed by a violent pain in the head, rigors, and unequivocal signs of meningitis. A large trepanation was then made, and it was found that the frontal sinus was entirely wanting, and that its place was occupied by the frontal lobes. A sound introduced from above immediately and without difficulty prenetrated into the nostril.

The patient died twenty-four hours later. The autopsy showed a sero-purulent meningitis, commencing from the anterior part of the frontal lobes; there was no traumatism of the brain. Although the explorations had been made with care and with all necessary antiseptic precautions, they had been the cause of the meningitis. The liquid which ran intermittently from the nose was a cerebro-spinal fluid. This case serves to condemn the opening of the frontal sinus by the method of Schoeffer, that is to say; by means of a trocar pushed from below upward into the nostril. The trepanation from the frontal region is much less dangerous and much more rational, because it makes a wide opening into the affected region. W. S.

Extensive Resection for Osteo-Chondroma.

Dr. A. C. Bernays describes a case of a patient who suffered from an osteo-chondroma, which had grown to such dimensions that it had involved almost the whole face, including the superior maxillæ, the palatal vault, the nose, the malar bones, and all the soft part surrounding these bones. (*Revue Internat. Rhinologie, Otology et Laryngologie*, September, 1896.) It filled the whole buccal cavity; a large portion projected from the mouth. The trachea was opened below the isthmus of the thyroid gland, and the anæsthesia continued with Trendelenburg's apparatus. The tumor was then removed by an extensive resection, as described in the title. The left antrum was found to be a solid osseous mass, which projected into the nasal cavity, and which had caused a displacement and erosion of the vomer and the nasal septum. The teeth were movable in the aveolus, and their roots were surrounded by a cartilagenouslike structure.

The operation, which was successful, and which gave the patient much relief, caused considerable deformity, which it was intended to attempt to remedy later by a plastic operation. Six months after leaving the hospital a recurrence took place which eventually proved fatal.

The operation was a very extensive and mutilating one, but it was the only resort, as the most ardent supporters of the serum therapy do not believe that any kind of toxin or anti-cancerous serum is capable of penetrating bone or cartilage. W. S.

LARYNGOLOGICAL.

Some New Topical Agents in the Treatment of Tuberculosis of the Larynx.

Dr. S. Solis-Cohen, in presenting a series of cases treated by recent therapeutic products, writes in the *N. Y. Med. Journ.*, Oct. 24th:

"Before adopting the treatment which I am now about to describe, the best results which I have seen, and which I could attribute to treatment, have followed the use of the curette and lactic acid in ulcerative or vegetative cases, conjoined with the use of hydrogen dioxide and iodoform, the latter agents alone being used in infiltrative cases. During the past year I have, however, seen such good results, alike in infiltrative, ulcerative, and vegetative cases, from the use of solutions of formic aldehyde, that I am tempted to believe that we have in this agent a means of treatment superior to any that I have thus far made use of. Formic aldehyde is found in the market in forty-per-cent. solutions, termed formalin, formol, and formaldehyde, the two former being proprietary names. I usually purchase the forty-per-cent. solution and dilute it with water to the strength desired, which ranges from one-half to four per cent. formic aldehyde—that is to say, from one to ten per cent. of the commercial preparations. As the extemporaneous solution of the somewhat oily liquid is difficult, it is well to have at hand phials containing the different strengths.

These lose, however, by evaporation of the very volatile active constituent, and must therefore be of comparatively recent preparation. The percentages which I employ are one, two, four, six, eight, and ten respectively of formalin, formol, or the commercial formaldehyde. Before making the application the parts should be thoroughly cocainized. When the weaker solutions of formic aldehyde are to be used, four per cent. of cocaine makes a sufficient preparation. For the stronger solutions of formic-aldehyde I have usually prepared the patient by using a ten-per-cent., or in some instances even a twenty-per-cent., solution of cocaine. Formaldehyde solutions, even the most diluted, cause an intense burning, stinging, even strangling sensation, when applied to the uncocainized mucous membrane; and even when the weaker solutions of cocaine have been used there is some painful tingling, which, however, soon passes off. I advise any one who intends to use this agent to make preliminary trial of it upon his own tongue and lips, cocainized and uncocainized, so that he may be aware of the nature and duration of the unpleasant sensation caused. As is well known, formaldehyde is one of our most potent antiseptics and germicides, and culture media treated with very dilute solutions of it remain sterile after inoculation with anthrax or tubercle bacilli. It also possesses the property of destroying degenerate tissues, such as superficial epitheliomata, and when applied in sufficient strength to healthy tissues, such as the tip of a rabbit's ear, causes what may be termed aseptic gangrene. The part becomes hard, dies, and is cast off, but at no time does bacterial infection take place. The effect is due to penetration, probably by vapor given off by the solution, and to the formation of certain chemical compounds between the formalin and the tissue cells, similar, doubtless, to the combination with gelatin, by which it causes the latter to harden. This action of the drug in hardening tissue and in preventing putrefaction, as is well known, makes it one of the most useful of reagents in the histologic laboratory. These considerations, and favorable experience with formaldehyde in the treatment of chancroids and chancres, together with the reports of some enthusiastic friends as to its usefulness in diphtheria, induced me to make trial of its properties in laryngeal tuberculosis; and while I have no case of complete recovery to record, I have seen sufficient favorable alteration in pathologic conditions to convince me of the extreme utility of the agent. The method of application has been similar to that employed with lactic acid. To convey the solution to the parts, I use sponge, held in the locked carrier of J. Solis-Cohen, or cotton wrapped upon this carrier or upon a roughened aluminum probe. With this, the parts treated are thoroughly rubbed after preliminary cleansing and cocainization. Beginning with the weakest solution of formaldehyde, the strength of the application is increased as rapidly as possible by successive increments up to ten per cent. of the commercial preparation, which equals four per cent. of pure formaldehyde. This is the strongest solution I have found it necessary to employ. The indications for increasing the percentage of active drug are the ability of the patient to bear the applications and the absence of inflammatory reaction.

"After applications of formaldehyde, protonuclein has been insufflated; in some cases, I think, with advantage. The applications are made twice weekly. In the intervals the larynx is cleansed with a spray of hydrogen-dioxide solution, followed by insufflation of iodoform or protonuclein, once or twice daily. I purpose making trial of the insufflation of formaldehyde-gelatin, commercially known as Schleich's glutol."

"A few words concerning the other agents mentioned in the title of this communication will suffice. My experience with guaiacol is limited to a very few cases. I have seen ulcerations of the larynx, which, however, I could not assert to be tuberculous, heal under its influence; and in one case, that of a patient who has died from pulmonary tuberculosis, the laryngeal symptoms which occurred during the last weeks of his life, and which were apparently due to tumefaction of the epiglottis confined to one of the lateral halves thereof, disappeared with subsidence of the swelling after two applications of guaiacol. I do not think it was simply acute œdema; it had not that appearance. In applying guaiacol, cocainization is first effected, and the twenty-five-per-cent. solution of the drug, in olive oil, with perhaps the addition of ten per cent. of menthol, is used. Had my attention not been so strongly directed toward the advantages of formaldehyde, I should have pursued the study of guaiacol, as to which the results, as will be perceived, are entirely indeterminate.

"Bromoform has been used by me with considerable satisfaction as a local analgetic in cases of painful ulceration of the larynx, especially in tuberculosis; and in several cases of early lesions the application of this agent, followed by the insufflation of iodoform, has been followed by healing. I make no further contention than this; as I have not considered it worth while to experiment with these drugs in cases of long-standing lesions. I desire, however, to call the attention of the fellows to the fact that formic compounds, as in the case of iodoform, chloroform, bromoform, and now formaldehyde, do seem to have, in greater or less degree, a specific antituberculous influence. Whether this be through action upon the bacilli or through restraining influence upon the histologic lesion, I am not prepared to affirm. My impression is that the latter guess is nearer to the truth."

Serum Therapy in Diphtheria and Malignant Tumors.

Dr. Damieno expresses himself in favor of the serum therapy in diphtheria. (*Revue Internat. de Rhinologie, Otologie et Laryngologie*, Sept., 1896.) He states, however, that unfortunately his enthusiasm is not the same in the serum therapy for malignant tumors. In two cases in which he has used it he has had failures, although both cases were too far advanced. He hopes, however, that further discoveries, regarding the true cause of these tumors, may lead to the production of a serum whose curative value will be equal to that of the anti-diphtheritic serum. W. S.

"Catarrhal Laryngitis;" Some of the Unusual Manifestations.

Dr. Clarence C. Rice (*N. Y. Med. Jour.*) thus summarizes an interesting paper on this subject:

"First, that there are two ordinary types of catarrhal laryngitis, the one following and dependent upon nasal obstruction, or the condition known as 'hypertrophic rhinitis;' and the other a laryngitis sicca, which is an extension downward of an atrophic rhinitis and a dry pharyngitis; and that in these two processes the same pathological condition exists, from the commencement of the nose to the bronchial tubes.

"Second, that we occasionally see laryngeal disturbances which from their appearance might belong to one of these two ordinary types; but the significant point is that they are present when the nose and pharynx are in excellent condition; or, still again, that the laryngeal disorder, although in kind like that of the nose, is in degree much greater, which is the reverse of the usual condition.

"Third, that there are several disturbances of the larynx, commonly classified under the general term of 'catarrhal laryngitis,' which seem to bear little or no relation to a previously existing nasal or pharyngeal disease; and as they are observed commonly in singers or public speakers, they are undoubtedly caused by an overuse of the voice and an improper method of breathing and tone production, since they are greatly improved by proper instruction in breathing and singing.

"I wish to emphasize the fact that these laryngeal disturbances cannot be much benefited by local medication to the larynx so long as the vocal apparatus is improperly used.

"Fourth, I have mentioned the following varieties of unusul laryngeal disturbance:

"(*a*) A general tissue atrophy of the soft parts of the pharynx and larynx, which produces a disordered relation and a general muscular weakness of the larynx.

"(*b*) The permanently enlarged and usually congested epiglottis, the larynx, as a whole, being nearly normal.

"(*c*) The 'choked voice,' caused by actual enlargement of the ventricular bands (the 'false vocal cords').

"(*d*) A permanent and perhaps congenital vascularity of the vocal bands.

"(*e*) A localized congestion of some portion of the larynx, probably indicating an overuse of some one of the muscular groups—the transverse arytænoids being the most commonly affected.

"(*f*) The condition known as 'singer's nodes,' produced by an incorrect method of using the voice, and cured by breathing and singing in a true physiological manner. And,

"(*g*) We see in singers the many appearances of muscular fatigue which are associated with hoarseness and loss of voice; and frequently we observe strange and strenuous efforts on the part of the larynx to supply extraordinary compensatory muscular action for the loss of the disabled muscles.

"Fifth, these various laryngeal disorders should be recognized by proper names, and their etiology appreciated, and they should not be confused with the ordinary phenomena of a simple catarrhal laryngitis. And

"Sixth, little dependence can be placed upon local medication of the larynx in these difficulties, unless particular attention is being paid to instruction in proper methods of breathing and voice production."

Aphasia in Polyglots.

Recent clinical observation has developed the idea that in polyglots different centers were occupied in the expression of different languages. M. Petres, in a recent number of the *Revue de Medecine*, demonstrates that when aphasia occurs in this class of patients, the last acquired language was always first lost. Another illustration of a similar condition is cited; where a patient has acquired the capacity to speak in one language after he has lost the ability of speaking in another.

Some Rare Cases of Laryngeal Disturbances in Relation to the Sexual Organs.

In a communication before the Italian Society of Laryngology, Otology and Rhinology, Dr. Fasano, after briefly referring to the intimate relation which exists between the sexual organs and the larynx in general, states that he has observed in membranous dysmenorrhea, in ovaritis, and in acute metritis and endo-metritis, certain circulatory troubles in the larynx with aphonia of a spastic form and marked congestion of the vocal cords. (*Revue Internat. de Rhinologie, Otologie et Laryngologie*, Sept., 1896.)

These conditions were absolutely independent of all other causes connected with the larynx, and local treatment remained without result. The symptoms in the larynx ceased at the same time as those of the uterus and the ovaries.

Referring then to the pathology of the subject, he admits that many of these phenomena may be interpreted on the principle of reflex action. As a result of these studies and observations, he concludes that hyperemia of the larynx may be a secondary phenomenon among the menstrual anomalies. W. S.

A Case of Foreign Body in the Tongue.

An interesting case of foreign body in the tongue is reported by Dr. A. V. Anderson in the *Australasian Medical Gazette*, Sept. 21st. Patient presented himself for treatment, complaining of a swelling in the tongue, of which he gave the following account: "A month previously he had jumped off the pier at The Bluff, New Zealand, to rescue a man who had fallen into the water, and in doing so his chin came into violent contact with a hawser, by which a steamer was moored to the pier. His tongue was much cut, but he took little notice of the accident in the excitement of the rescue of the drowning man. He left for Melbourne immediately afterwards, and had no time to seek for medical attendance. No medical man was on board the ship which brought him to Melbourne, but the captain gave him gargles for his mouth. He was able to swallow only with much difficulty for several days, because of the swelling of his tongue, and there was still much swelling when he arrived in Melbourne. He did not then get medical advice at once, but went to various chemists, who gave him different washes for his mouth. About ten days before I saw him a discharge appeared from the under surface of the tongue, the wound of which had previously quite healed, and this continued until he came up to the hospital.

"When I saw him the right side of the tongue was enlarged, and a somewhat circumscribed hardness could be made out, extending from about half an inch behind the tip for more than an inch backward. The upper surface of the tongue showed no scar, but on the under surface there was a small cicatrix, and in this a sinus, from which pus exuded. On passing a probe, a hard substance was readily felt, which I thought at first was a tooth, but an examination of the patient's mouth showed that this could not be the explanation.

"I made a free incision, and removed from the substance of the tongue the amber mouthpiece of a pipe—the foreign body measuring an inch in length, half an inch in width, and rather less than half an inch in thickness. The patient then for the first time since the accident remembered that he had been smoking when he jumped from the pier, and the loss of his pipe, which he had not been able to account for, was satisfactorily explained.

"The wound in the tongue healed up without further trouble.

"Instances of the long retention of foreign bodies in the tongue are not so uncommon as might be supposed. In the *Lancet* of 1846 mention is made of the case of a German soldier who received a bullet wound, passing through the cheek, jaw, tongue, and out of the mouth on the opposite side. The wounds healed in a few weeks, but repeated suppuration occurred in the tongue, and 32 years after the original injury there was extracted from the substance of the tongue a molar tooth.

"Mr. South records in Chelius' System of Surgery the removal of a piece of tobacco pipe from the cheek of a man, after it had been there for ten months. In this case the foreign body entered from the outside.

"In Guy's Hospital Museum there is preserved a piece of tobacco pipe over which the substance of the tongue had closed. In this case repeated hemorrhage occurred, and ultimately caused the death of the patient."—*Gant's Surgery.*

Contribution to the Study of the Falling of Tracheotomy Canulas Into the Respiratory Passages.

Dr. Billot has collected nineteen cases of this kind, published in the last twenty-six years. (*Ann. des Mal. de l'oreille et du larynx*, No. 3, Mars, 1896.) The first indication is to assure the respiration of the patient by means of a large canula introduced into the tracheotomy tube. The attempt should then be made to extract the lost canula by means of appropriate forceps. W. S.

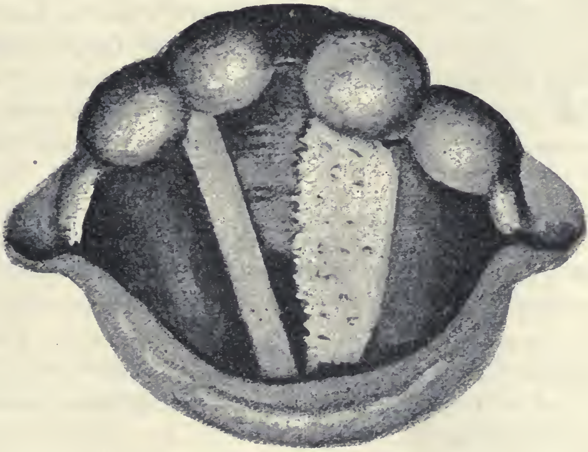
Laryngeal Papilloma in a Child—Repeated Intubation—Death.

Symptoms of laryngeal stenosis occurred in a child three years of age (F. Lohrsdorfer, Port Huron, Mich., *Med. Record*, Oct. 10, 1896). No satisfactory laryngoscopic view could be obtained. The child could only speak in a whisper. Intubation was practiced, with relief, whenever suffocative symptoms appeared. After one of the attacks the tube was removed, and immediately symptoms of suffocation set in. Tracheotomy was performed, and the condition improved. An operation was to be performed on the following day for the removal of the laryngeal disease, but the child died suddenly during the night from dyspnœa due to obstruction of the canula. The autopsy revealed a broad-based papilloma, entirely encircling the interior of the larynx at the level of the vocal cords, and completely closing the glottis.

M. D. L.

Unusual Laryngeal Growth.

Dr. J. W. Gleitsman (*N. Y. Med. Jour.*) reports the case of a Russian Jew, æt. thirty-three, of small stature, but well built. Hoarseness set in a year previous; no other complaint; no pain, dyspnœa or loss of flesh. Inspection revealed a large, almost snow-white mass extending horizontally the entire diameter of the larynx, from the anterior commissure to the arytenoid cartilage, on the right side, and appeared to be located between the false and true cord. It looked very much like a bunch of cotton which had been inserted all along the ventricle of Morgagni. The whiteness was homogeneous in its entire length, its surface very little corrugated, its free border slightly irregular.



Twice small pieces of the growth were removed, and then the patient was lost sight of.

Microscopical examination resulted in a diagnosis of "papilloma durum, probably malignum, and possibly carcinomatosum."

Sublingual Ranula with Repeated Recurrences; Transformation Into a Submaxillary Ranula; Multiple Recurrences; Removal of Ranula and of the Submaxillary Gland; Cure.

Dr. Despres (*Gaz. des Hopitaux*, May 7, 1896) reports the following case: A young man, thirty-four years of age, who was suffering from ranula, which had been operated four times by simple incision followed by cauterization, found the tumor invading the submaxillary gland and making its appearance under the angle of the jaw bone. The introduction of a seton, repeated five times, caused the disappearance of the tumor, which reappeared at the end of five months. Dr. Despres then removed the cyst and the submaxillary gland. The operation was quite elaborate; it was necessary to expose the hypoglossus, the mylo-hoideus, the diagastric, and the muscles of the pharynx; to ligate the facial artery, separate the tumor from the trachea and the chords of the vessels of the neck, ligate the veins of the thyroid plexus after these had been penetrated by air; and, after the operation, the patient suffered with a circumscribed erysipelas of the face and aphonia of considerable duration. W. S.

Contribution to the Surgical Treatment of Pharyngeal Tuberculosis.

Dr. Masucci (Naples) states that he does not wish to make a detailed comparison between the different antiseptics for the treatment of laryngeal tuberculosis, nor to give the results, which he has obtained in practice. (*Revue Internat. de Rhin.*, *Otol. et Laryng*, Sept., 1896.) He has long followed the curative methods of Heryng, and is convinced that, in the present state of our therapeutics, it is the only procedure which, associated with antiseptics, can give the most satisfactory results.

He approves of the statements made at the last congress at London by Dr. Lehr, who stated that the method of Heryng was the best which we have, because, by freeing the larynx more rapidly than other methods from ulcerations and tubercular infiltrations, it removes a continual focus of infection of the whole economy. This focus, in fact, produces the tubercular toxines, which may be the cause of the development of tuberculosis in the lower respiratory passages, when these are still exempt.

Dr. Masucci reports his results in eight cases of this kind, three being cases of primative and three of the secondary laryngeal tuberculosis. In the first, the scraping, combined with iodoform, has given good results, and he is able to affirm, after having observed them for a long time, that there has not been a relapse.

In the cases of the second category, he has had only one case of failure, two positive improvements, and two cases in which the improvement was not perceptible on account of the gravity of the process. There is no medical treatment which has thus far given him such results. He therefore insists upon the importance of this curative method, which may give excellent results when undertaken at a sufficiently early stage. The rapidity of the action, as well as the results obtained, is not rivalled by any other method. Curettage does not prevent the use of any other treatment; on the contrary, he insists upon the importance of improving the general nutrition of the patient, both dietetic and climatic. If such results have been obtained in the regions of the North by this method of treating laryngeal tuberculosis, if this were practiced on a large scale in Italy, it would give superior results to those obtained by Heryng in Germany and Russia.

W. S.

Mixed Glandular Tumors of the Velum Palati.

Dr. Berger describes the case of a tumor which occupied the left half of the velum in a 30-year-old woman. (*Bull. med.*, No. 21; *Revue Hebdomedaire de Laryngologie, d'Otologie et de Rhinologie*, Sept., 1896.) The development was slow, indolent, without functional trouble, and without involvement of the glands; the tumor was hard, movable upon the mucous membrane and the neighboring parts, flattened and slightly globular. The author here enters upon a theoretic consideration of the nature of the solid tumors of the velum palati, which he considers as having the same origin (the hypertrophy of the glands and of the periglandular connective tissue).

Dr. Berger believes that the presence of a capsule of fibrous tissue about the pathologic tissue is characteristic of these tumors, which are benign and easy of enucleation, but that we must lose no time in removing them on account of the possible transformation into sarcoma, or epithelioma. Thirteen or fourteen cases of this kind have been published.

The operation was very difficult, and a very abundant venous hemorrhage made it necessary, in the course of the operation, to make repeated tamponnades. A number of times the patient was in danger of hemorrhage and asphyxia. The histologic examination showed it to be a mixed tumor, in which could be found portions of sarcoma, fibroma, myxoma and chondroma, but in which the tubulated epithelioma predominated, as a result of which Dr. Berger is very reserved as regards a recurrence.

W. S.

A New Procedure for Restoring the Loss of Substance in the Velum Palati, Especially of the Antero-Posterior Part.

When the loss of substance of the velum palati is too great or too anterior, and when the lateral parts of the mucous membrane are not large enough to make a flap at least 10mm. in size, the usual plastic procedures are not applicable, and we are compelled to have recourse to prothesis. (Dr. Delorme, in *Gaz. des Hopitaux*, *Revue Internat. de Rhin.*, *Otol. & Laryng*, July, 1806.) In such cases the professor of Val de Grace removes from the mucous membrance of the cheek a flap of this shape (━┫), with the base adhering posteriorly. The pedicle should correspond with the interdenticular space, and must avoid the canal of Stenon.

The dissected flap is turned at an obtuse angle; the edges are fixed to those of the opening to be closed, care being taken to prevent the cutting of the pedicle by the dental arches, these being maintained apart by a special mechanism made of gutta-percha. The loss of substance, incident to the removal of the flap, is soon covered; the hemorrhage is slight and easy to control. The flap being simply turned and not twisted on its pedicle, and not torn, preserves its vitality. W. S.

Two Cases of Insufficiency of the Velum Palati.

Dr. Egger, in *Ann. des Mal. de l' Oreille*, *du Larynx*, April, 1896, reports the two following cases:

I. A young man of eighteen years, affected with a double inguinal hernia, and presenting adhesions of the lobules of the ear, had had a nasal voice since infancy, and suffered from short respiration; there was no marked difficulty in deglutition. The velum of the palate did not come in contact with the posterior part of the pharynx during the emission of his "A," and not even during efforts of vomiting; the distance between the uvula and the posterior wall was 15mm.

II. A strumous subject of fifteen years had a nasal voice and chronic coryza. He was affected with the same deformity. He could breathe only through the mouth. The velum palati cannot touch the pharyngeal wall and is besides adherent to the two tonsils.

These two observations confirm the fact described by Dr. Lermoyez under the name of "velo-palatine insufficiency;" it is simply a congenital abnormality due to arrest of development, not of the velum palati, but of the palatine vault; the shortness of the velum is only apparent; the real shortness exists in the bony vault. W. S.

Syphilitic Contraction of the Phaynx; External Pharyngotomy Through the Trans-Hyoidean Region.

Dr. Vallas reports the case of a young man, twenty-two years old, who had contracted syphilis during his childhood, who suffered from dysphagia, emaciation and dyspnœa. (*Soc. des sc. Med. de Lyon*, April 22, 1896). A specific treatment brought about a rapid improvement, but the velum palati was completely adherent to the posterior wall of the pharynx, leaving but a small orifice into the naso-pharyngeal passage. In addition to the contraction, the pillars were attached to the base of the tongue, almost to the epiglottis; the opening from the mouth into the esophagus and the trachea is only 15mm. by 4 to 5mm. in size. Only liquid food could be taken.

The first operative procedure, consisting of internal pharyngotomy and daily dilatations, was followed by an amelioration of but short duration. It was then decided to make a more complete operation by way of the trans-hyoidean passage; tracheotomy and canula tamponage, and an incision of 10cm. near the hyoid bone. The incision was then carried into the pharynx to the cicatricial mass. An especially-constructed apparatus for dilatation was then introduced. The patient can now swallow solid food, and has no difficulty in retaining the dilatator. W. S.

Non-Malignant Tumors of the Tonsil, with Report of a Case (Lymphangioma).

Reference is made (Dr. Herbert D. Hamilton, Montreal) to the clinical significance of recognizing such growths; to the remarkable paucity of symptoms; to the rapid improvement in general health after removal of large tumors; and to the clinical fact that benign tumors in this region are rare, although from an embryological standpoint they should be very common.

Lymphangiomata are not easily found amongst the list of cases on record. This case occurred in a man of 22 years of age, who had been aware of its presence for two weeks before applying for treatment. The tumor had its origin by two pedicles (one wholly vascular) from the upper segment of the right tonsil, and measured 3 inches by $\frac{3}{4}$ of an inch by $\frac{1}{2}$ an inch. The treatment of removal by electric snare was found necessary on account of interference to breathing during sleep. Photographs of the tumor when swallowed and again when protruded upon the tongue, gave a very true idea of the condition.

OTOLOGICAL.

Tardy Hereditary Gout of the Ear.

After a description of the pathology of this affection, and after referring to records of such cases in literature, Dr. D'Aguanno reports three cases which he has observed, and in which the deafness developed as soon as the patient arrived at the age of puberty. (*Revue Internat. de Rhin., Otol. et Laryng.*, Sept., 1896.) These cases did not present any form of hereditary syphilis or any naso-pharyngeal affection; the father had simply been affected with a gouty diathesis for several years. From these observations, he believes himself authorized to say that, among the ordinary forms of hereditary gout of the ear there is a late form which usually manifests itself at the age of 15 to 20 years. W. S.

Acute Otitis Media Caused by the Nasal Douche.

Dr. Burnett reports the history of a case, and points out the errors in the treatment of the patient:

First error: The use of the nasal douche to relieve cold in the head.

Second error: Allowing the ear to ache for one week without performing paracentesis.

Third error: The long-continued syringing, moppings, etc. (*The Phil. Polyclin.; American Medico-Surg. Bull.*, Oct. 10, 1896.)

Acute inflammation of the middle ear being caused by the entrance of the streptococci and other germs into the drum cavity from the naso-pharynx, it is manifest that any form of inflation of the naso-pharynx may force fresh germs from it into the middle ear, or force pathogenic germs already in the drum cavity into the mastoid cells, which would otherwise escape acute infection.

The staphylococcus albus is the acknowledged cause of secondary infection and chronicity in aural suppurations, and is generally present in the external ear. W. S.

Seasickness: Its Cause and Relief.

Physiological experimentation and pathological observation demonstrate that the semi-circular canals exercise a controlling influence over the maintenance of the erect posture and the sense of equilibrium. (James L. Minor, Memphis, *N. Y. Med. Journal*, Oct. 17, 1896). Inquiry has shown that deaf mutes do not suffer from seasickness. Taking into consideration these facts, and knowing that the above functions are frequently disturbed on board ship, the author comes to the conclusion that this complaint is of aural origin. He further strengthens this belief by the knowledge that deaf mutes can be turned around very rapidly in a circle without suffering from the usual phenomena connected with such a performance, *i. e.*, nausea or dizziness. He believes that their semi-circular canals are not active, or that their sensibility is impaired. The remedy suggested for the relief of this disorder is anæsthetization of the canals by means of cocaine, dropped into the external canal (?). A few drops of an 8-per-cent. solution was employed by the author in a series of cases. He brought on the symptoms by rapidly turning the individual in a circle. Cocaine seemed to lessen the disagreeable symptoms, and its action lasted from four to six hours. He concludes that seasickness is a manifestation of irritation of the semi-circular canals caused by the frequent and varied motions of the ship. M. D. L.

Report of Seven Cases of Malformations of Ear, Accompanied by Complete Closure of the External Canal.

This series of interesting malformations of the ear are reported by Dr. F. P. Hoover, in the *Medical Herald*, Sept., 1896.

Five of the seven cases were congenital malformations. In the majority of these cases the occlusion of the external auditory canal was instrumentally remedied and hearing power restored to more or less extent. The illustrations accompanying the article show definitely to what extent the graceful tissues and form of the external ear can vary.

The Mastoid Antrum a Part of the Middle Ear.

The author (Arthur H. Cheatle, *Archives of Otology*, July, 1896) states that, though this cavity is described as part of the mastoid process, it is nevertheless a definite and regular part of the middle ear, as shown in fœtal life. The mastoid process is not formed until the end of the first year. M. D. L.

A Case of Bezold's Mastoiditis.

Dr. Tissot reports the case of a man of 35 years, who was affected, after an attack of grippe, with a suppurative otitis with perforation of the tympanum and great constitutional disturbances; the mastoid and the sterno-mastoid regions presented an edematous swelling, with redness of the skin, fluctuation, and the appearance of pus in the auditory canal when the diseased region was pressed. (*Dauphine Medic.; Revue Internat. de Rhin., Otol. and Laryng.*, July, 1896). After the classic retro-auricular incision, prolonged as far as the sterno-mastoid, had been made, a denudation of the external face of the apophysis was found, and, on the internal surface, a necrosed spot through which the sound penetrated into the cells. The patient could not apparently support a more prolongated operation and the trepanation of the apophysis was not made.

The general symptoms became aggravated, and the patient died on the sixth day after the operation. The autopsy showed a diffused meningo-encephalitis and a sub-dural abscess of the temporal fossa.

W. S.

Mastoid Operations.

The first course of the "Lane Medical Lectures" (*Occidental Medical Times*), that will hereafter be an annual event, was inaugurated at Cooper Medical College on Monday, September 14, 1896, by Prof. Wm. Macewen, of the University of Glasgow, who, the last day, trephined the mastoid, at the same time outlining the various steps for the relief of cerebral and cerebellar abscess in connection with mastoid suppuration. The operations were performed in the clinical amphitheater of the College, which was referred to by the distinguished visitor as being admirably suited for its purpose.

These lectures were masterpieces; in language they were clear, concise, logical, and richly laden with the mature fruit of original research. His statement of facts was given with a candor, modesty, and absence of self-parade that won the sincerest respect of all who listened to Prof. Macewen. The lectures were delivered in the spacious auditorium attached to the College.

In preparation for the lectures a number of diagrams in colors descriptive of cases that had been operated upon by the lecturer were placed upon the walls, at the back of the platform, and were used for illustrating points in localization and treatment. A very large number of beautiful sections were also shown by the stereopticon, and duplicates of each section shown were arranged in regular order at the front of the platform, so that they could be referred to after each lecture. These sections were, in the main, prepared by freezing the subject. In this way the exact anatomical lines and relations were preserved. Structures were here demonstrated in outline and position that never appear in the text-books. This was especially well shown in the form of the intradural spaces, both normal and morbid, a most accurate conception of the effects of pathological processes being readily conveyed.

The first lecture was in a sense preparatory to those that followed and was mainly devoted to anatomical details, with allusion to function and localization when bearing directly on the demonstration. One of the first points brought out by the sections shown was the roundness of outline and greater fulness in all directions of the brain during life as opposed to the results found *post-mortem*. The bearing of this on operative procedure was that brain tissue was encountered rather closer to the periphery than the brain of the dissecting room would convey. The importance of the subdural space when its great extent was considered in relation to acute infectious processes was beautifully shown by the frozen sections.

The second lecture dealt with localization in relation to the special centers that have been definitely isolated. Here the colored diagrams of cases that had been operated upon by the speaker were most valuable. Each case of this character might be regarded as an original experiment. The success of the experiment being shown by the relief of the symptoms following the operation, or by the *post-mortem* examination, with its fuller details. Stereopticon views were also used in this lecture to show sections of tumors *in situ*. A point brought out most prominently here was the effect of operative procedure in cases of acute hydrocephalus. The frozen sections showing plainly that the withdrawal of the fluid must inevitably be followed by collapse of the attenuated brain matter that, in some cases, formed merely a layer between the fluid and the dura. The clinical details of the cases reported in illustration were admirably rendered, giving this portion of the lectures all the interest of a well-told narrative, from which nothing of importance had been omitted. The difficulties in diagnosis were well brought out, and the trouble experienced in unravelling the complex symptoms produced by interdependence of function, both psychical and physical, of adjacent areas, was shown.

In his third lecture Prof. Macewen diverged somewhat from the original programme to speak of the mode of detection of cerebral or cerebellar tumors and their treatment. The symptoms were first reviewed in detail, the local and the general being pointed out, and their dependence next considered. Some that were common to other conditions should always be borne in mind for elimination. The fact never to be forgotten in diagnosis was the remote effect that distension of the brain by a growing intracerebral mass might exert at remote points. The lecturer asserted that it was possible by percussion to determine the presence of any considerable accumulation of fluid in the ventricles, and the method of eliciting this sign was demonstrated. Certain symptoms as those of the eye and of the circulatory system were constant, but others were very variable. The methods of operating for the relief of these conditions were briefly taken up, and the means of dealing with complications, such as hemorrhage, were pointed out.

The fourth lecture, which would properly have been the third in the series, took up the subject of the acute infectious processes. Here the onset of symptoms and of the gravest results was comparatively rapid, demanding prompt relief. There were two errors that had been very generally held by the profession. The first was that an abscess of the brain was only part of a general pyemic infection, and that therefore its treatment must be regarded as hopeless in the extreme. The other was that the lesion was so infrequent in its occurrence and so erratic in its location that skill in dealing with it, and the practicability of its complete evacuation, were to be rarely attained. He showed, from his own personal experience, that abscess of the brain could not be regarded as such an infrequent occurrence, and that it was certain that many cases were never diagnosed during life, while a fair proportion were not recognized even by *post-mortem* examination. The next point as to the location of this class of lesion was most practical. The lecturer demonstrated conclusively that the vast majority of these cases originated from chronic suppurative processes in the middle ear. This, when accepted, not only opened the way to a ready diagnosis, but also gave a step by step mechanical process by which the lesion could be approached and successfully attacked. Meddlesome treatment in middle ear disease, of a chronic character, and its fatal result, was pointed out, and the necessity of the most radical measures when the danger line was approached was clearly shown.

The fifth lecture was devoted to a resume of the symptoms and indications for operation in cases of abscess and sinus thrombosis. The different methods of operating were also taken up in a more specific manner than on former occasions. One of the first points made by the speaker was that the temperature record was no indication whatever of the mischief that might be going on inside the brain. With sinus thrombosis, on the contrary, the temperature was a very reliable guide. The same rule applied to rigors which were few or absent with abscess, but always present and often frequent in thrombosis. The varying symptoms of the two conditions already mentioned and of meningitis were very fully discussed and contrasted before the lecturer proceeded to the method of operating that he deemed most advisable. The first point in these cases was to reach the mastoid antrum. This was not only a guide in all future steps if further interference were contemplated, but its condition directly implied that of the adjacent parts and the well recognized indications at that point could be availed of by the operator. To open the mastoid he discards the hammer and chisel, which he believes are unsafe, using only a small hand gouge and a burr with the ordinary dental engine to supply the motive power. That these means, though new to operators in this country who follow mainly the German methods, were all sufficient, the lecturer demonstrated later in the day, when he opened and cleaned out a mastoid antrum in the most approved manner.

Prof. Macewen's armamentarium was not extensive, but it included, beside the hand gouge and burr above mentioned, globular burrs of different sizes. One of these burrs was very large, being three-eighths of an inch in diameter, made to order for him in San Francisco. In addition he used a Younger reamer and a Rollins spiral knife of the make of the S. S. White Co. A point worthy of consideration is that, according to the experience of dental surgeons, after perforating the bone into a cavity, a burr can be made to "bind" (i. e., hold itself to a cutting pressure or bite), if introduced into the cavity and made to cut the cortex from within outward. Thus the mastoid cortex can be rapidly removed if the pneumatic spaces can be easily broken up and a burr used from within the thus-formed cavity from within outward.

F. B. E.

Keloid Tumors of the External Ear.

Dr. Wm. Scheppegrell, in the *N. Y. Med. Jour.*, Oct. 17th, writes: "Among the non-malignant tumors of the auricle, the most common is the keloid, a fibroid neoplasm developed from the cicatricial tissue of the pierced lobule. As the piercing of the ear for rings is a relic of barbarism chiefly restricted to women, we find this form of tumor limited almost exclusively to this sex." Keloids appear most frequently in the negro race, as substantiated by statistics of the author; the cause ascribed being the inherent tendency of this race to the formation of fibroid tumors. From various authors cited, there seems to be a concensus of opinion that the recurrence of keloids is frequent, mainly due to an incomplete removal of the growth or to the formation of cicatricial tissue acting as an irritating factor.

Pain is not an accompaniment of these growths, inconvenience due to size being the principal complaint. Their removal is generally demanded for cosmetic purposes.

The form of operation advocated and accompanied by greatest success is to carefully dissect out the tumor, closing the wound entirely, if necessary by a plastic operation, and thus procuring healing by first intention.

This prevents formation of cicatrices, and gives best assurance of a non-recurrence. Several cases are reported by the author, where the above precautions were observed and no recurrence of the growths has been noted. The cases operated on were dated respectively six months and fourteen months prior to presentation of the paper.

NEW INSTRUMENTS.

A Handy Form of Hot Snare for Tonsillotomy.

Dr. Henry Gradle, in *Jour. Am. Med. Assn.*, Sept. 26th, presents a new galvano-cautery snare for the removal of the tonsils. He favorably compares the advantages of the hot snare with those of the tonsillotome. The instrument devised is stronger in construction than the ordinary snare canulæ. It consists of a handle made of two parallel brass bars, 11 cm. long, mounted in vulcanite blocks. A third block is fitted with lateral rings for sliding along the bars; the wire is attached to two insulated steel stilets; the central vulcanite block fitted to the two brass bars operates the snare. Steel piano-wire is recommended on account of its stiffness. The electric connection is made by conducting-cords attached to the posterior ring.

BOOK REVIEWS.

A Manual of Clinical Diagnosis by Microscopical and Chemical Methods. For Students, Hospital Physicians and Practitioners. By Charles E. Simon, M.D., Late Assistant Resident Physician Johns-Hopkins Hospital, Baltimore. In one very handsome octavo volume of 504 pages, with 132 engravings and 10 full-page colored plates. Cloth, $3.50. Lea Brothers & Co., Philadelphia and New York. 1896.

The importance of the microscope and the test tube as an aid to the diagnostician is now established. Every investigator and progressive physician should express his appreciation of this the first complete American volume dealing with this valuable department of clinical diagnosis. This work is a classic in the field it represents, and will be of great assistance in placing the science of clinical chemistry and microscopy in the prominent position which it is soon destined to occupy. The practical experience of the author, aided by unlimited hospital facilities, has given him ample opportunity to verify the many tests and analyses under consideration, and to present his subject matter in a clear and explicit manner. The sections on nasal secretions and the sputum, with very exhaustive descriptions of their examination, are of special interest to laryngologists. Every chapter is up to date, and the directions for examination of the various fluids, excreta, parasites, etc., of the body are accurately and carefully recorded. The work is well arranged, excellently printed and beautifully illustrated.

BOOKS AND PAMPHLETS RECEIVED.

Intrabronchial Medication. By Joseph Muir, M.D. Reprinted from *Am. Medico-Surgical Bulletin*, Jan. 25, 1896.

A Clinical Study of Twenty-one Thousand Cases of Diseases of the Ear, Nose and Throat. By Seth Scott Bishop, M.D. Reprinted from the *Jour. of the Am. Med. Assoc.*, Sept. 26, 1896.

Intubation in the Adult, with Special Reference to Acute Stenosis of the Larynx. By W. E. Casselberry, M.D. Reprint, *N. Y. Med. Jour.*, Sept. 5, 1896.

Electrolysis for the Reduction of Spurs of the Nasal Septum. By W. E. Casselberry, M.D. Reprint, *Jour. of the Am. Med. Assoc.*, Sept. 12, 1896.

Diagnosis and Treatment of Laryngeal Diphtheria. By W. E. Casselberry, M.D. Reprint, *North Am. Practitioner.*

NEWS ITEMS.

Dr. W. Scheppegrell, of New Orleans, has been elected Professor of Diseases of the Nose, Throat and Ear in the National College of Electro-Therapeutics.

The American Laryngological, Rhinological and Otological Society.

The meeting of the Southern Section of the American Laryngological, Rhinological and Otological Society will be held in New Orleans, March 3rd and 4th, 1897. This date has been selected, as it will permit visiting members to see New Orleans during the carnival season, and will enable them to secure half-rate railroad transportation.

The number of physicians who devote their attention to diseases of the ear, nose and throat has increased so much, and the subjects for discussion have become so extensive, that it is difficult in the time devoted to the annual meeting of the society to give the necessary time to many important questions. On this account the four sections of the society have been formed, the object of which is to promote the interest of the specialty during the interval of the annual meetings.

A meeting of a Laryngological, Rhinological and Otological Society in the South is a distinctly new enterprise, and should be encouraged. With the active co-operation of the physicians interested in this work, the carnival meeting of the Southern Section of the American Laryngological, Rhinological and Otological Society will be an assured success.

Candidates for membership should send their names, properly endorsed, to Dr. Robt. C. Myles, Secretary, 46 West 36th St., New York, or to Dr. W. Scheppegrell, Medical Building, New Orleans, so that they may be acted upon by the council of the society.

Third International Congress of the Deaf.

The Third International Congress of the Deaf was held at the University of Geneva, Switzerland, August 19th to 23d, 1896. Delegates were present from all the leading countries of Europe. Among the most prominent representatives were: Messrs. Gaillard, Dusuzeau, Genis and Née, of France; Steinthal and Krieger, of Germany; Micheloni and Guerra, of Italy; Klofverskjold, of Sweden; and Ricca and Secretan, of Switzerland. Papers were read and addresses made on subjects of interest and importance to the deaf, and resolutions were adopted.

CORRECTIONS.

Treatment of Antrum Disease.

In the abstract of Dr. John E. Bacon's article on "Treatment of Antrum Disease," in our October issue, it was omitted to state that Dr. Bacon gave the credit of the operation to Dr. Walter J. Freeman, of Philadelphia, who first described it in an article entitled "Operative Treatment of Purulent Disease of the Antrum of Highmore, with Exhibition of New Instruments," the paper being read in the section on laryngology and otology of the American Medical Association, May 7th to 10th, 1895.

Hay Fever Acid Solution.

In our *October* issue we published the following as Dr. W. F. Strangway's solution:

℞	Acid Acetate	♏ij.
	Sodium chlor	grs. iv.
	Resorcin.	grs. iiss.
	Aqua	ʒj.

Sig. M. Use as a douche.

This *should* have read as follows:

℞	Acid Acetate	♏ij.
	Sodium chlor	grs. iv.
	Resorcin	grs. j¼.
	Aqua	℥i. M.

—Editor.

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ORIGINAL COMMUNICATIONS.

AN ESSAY ON THE ORGANS OF TASTE.*

AN ORIGINAL MONOGRAPH.

Presented to the French Laryngological Society, of Paris.

BY J. MOUNT BLEYER, M.D., F.R.A.M.S., OF NEW YORK CITY.

> "Each has its power distinctly and alone,
> And every sense's power is its own."
> —*Lucret*, iv., *487*.

"*De gustibus non est disputandum*" is an old and well-known commonplace, to which, while prefixing it as motto, I might give a rendering somewhat different from the usual one, and say, about taste there is little to be said. No doubt, upon such a theme many pages might easily be filled, were I minded to enter the arena of æsthetics and pursue the chameleon-like idea into all its ramifications; but a sober exposition of the physiological conditions of the sense is so unpromising a subject that I could not help fearing an exposure of the poverty of science, as in my consideration of the sense of smell.† I propose rather to clear up some of the inveterate errors prevalent among the uninformed, than to furnish as thorough an investigation as might be desirable. I reckon herein but little on the interest of the gourmands who may suppose that physiology can be advanced by their manifold experience in regard to this favorite sense, and who will, therefore, learn with the deeper indignation that physiology has not only known how to profit by their researches, but even regards them as the chief sources of the common and widespread errors just alluded to. The fleshy and wonderful member which, as such persons would seem to opine, has been placed at the very inlet of the alimentary canal, with scarcely any other view than to preside over gustatory pleasures, offers to our keenest inquiries just as profound an enigma as the organ of smell. Very far are we from being able to explain how that specific sensation, which, without any further power of description, we denominate taste, arises; what is the essential difference between a sensation of sweet and sour; what the real principle which resides in any substance so as to occasion our applying to it one or the other epithet, to say nothing of any possible explication, by the aid of science, of the different shadings, as it were, of sapidity cognizable by a nice palate, or of the jargon by which we attempt to characterize them. Here common nerve fibres, between which and those of other organs of sense the closest inspection fails to detect much difference, serve to interpret to the sensorium, by means of their extremities in the mucous coat of the tongue, the endless variety of so-called flavors of sapid substance; but we seek in vain, either at the outer or inner extremities of these conducting fibres, for any specific apparatus which might enlighten us as to their operations. The present state of our knowledge, which the microscope has given us, nevertheless baffles somewhat the physiologist in searching to disclose to him the entire ends of the nerves of taste provided with minute vesicles or filaments, or any other elementary form. Should we understand them any more than we do the already-discovered cells of the cerebral termination of all nerves, or the small bulbs at the outer extremity of the nerves of touch, it would probably fare with us as with some ancient Roman raised from the grave and suddenly placed in presence of a telegraphic apparatus, telephone or electric light.

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*This Monograph is a companion to the one, "A Memoir on the Odoriferous Sense," by the author. Presented to the same Society in May, 1896.

†"Memoir on The Odoriferous Sense." Dr. J. Mount Bleyer, of New York City, Transaction French Laryngological Society, Paris, 1896, and reprinted by the *Homeopathic Throat, Nose Journal*, 1896.

In the meantime it would seem the next most important problem of science in this connection to study, with more exactness than heretofore, the terminal points of the nerves of taste in the mucous membrane, in order to discover here, as has very recently been effected in the nerves of the other senses, the elementary form of the nerve ends by which the sensation in question is communicated, whereby we may hope to approach, in the future, somewhat nearer to a solution of the mysterious relation which exists between the contact of sapid substances with the tongue and the peculiar sensations which they are destined to excite.

If we bring into contact with the nerves of sight or of feeling a solution of sugar, or of some intensely bitter substance, such as quinine, they remain undisturbed; neither class of nerves is roused to that state of activity by virtue of which a "*current*" is hurried to the brain, there to call forth an appropriate sensation. We may conclude then with absolute certainty that there is present in the tongue a mechanism, a contrivance which sugar and quinine excite into different specific kinds of action; that this action is suited to evoke in the nerve filaments peculiar modifications of the before-mentioned current; and that this current again must find at the cerebral end of the nerves of taste a special apparatus which so operates upon what we call the soul that, as the final result, a perception of sweetness or bitterness arises. These successive preliminaries to a sensation of taste are at present beyond our scrutiny; it will be well if means are at our disposal to resolve, step by step, with clear physiological facts and indications, the questions which present themselves in connection with each of them. Nor shall we repine that such problems lie before us. The novice errs if he thinks that a science affords to its votaries a higher satisfaction; the greater the completeness with which it presents itself, the more exactly finished the edifice into which it introduces them. A satisfaction of a different and perhaps superior kind is afforded by science through its very gaps and obscure spaces, but only to him who loyally loves it for its own sake; to accompany a science in its development, to contribute, though it were but a small, inconspicuous stone, to the growing structure, affords a more vivid pleasure than being admitted to a participation in what is already accomplished. There are, it is true, self-styled savants to whom also the deficiencies in a science are more welcome than the completed structure, because those deficiences are regarded not in a spirit of earnest inquiry, but as affording opportunities for the acquisition of easy notoriety and applause. Shunning the toils of research, they find it more convenient to guess at the future revelations of science than acknowledge their own ignorance, and overweaving all chasms with flimsy theories, they vaunt the result as knowledge converted into luxury and amusement. With these self-satisfied sciolists, who but too often and easily gain access to the public ear, the detail facts and laws is derided as pedantry; the slow and cautious processes of inquiry as unworthy drudgery; the reserve and modesty of true science as tame mediocrity or affected obscurity. These remarks are made simply against this form of charlatanism; it is because no occasion seemed more proper than when attempting to place before the general practitioner a comprehensive work of this kind, without dissembling difficulties or courting effect, one of the most obscure departments of physiology, I turn to my subject.

It is not improbable that the first inquiry I have to propose will at the first glance appear to my readers superfluous, and surprise will scarcely fail to be awakened when it is shown how much obscurity really rests upon the seemingly simple question: *What is the seat of taste, and what organs produce the sensation?* With the common and general answer, *the tongue*, unfortunately we cannot rest satisfied, for it remains further to be asked: first, what part of the tongue receives the peculiar impressions which we call taste; secondly, whether, besides the tongue, other parts of the cavity of the mouth are endowed with this faculty; thirdly, to what structural arrangements is it due? Strangely enough the answers to the three questions are still in dispute, and in part at least are extremely defective. It would seem, on the whole, highly probable that to a very small tract has been assigned the sense of taste, for with more exact exploration its boundaries have been found to be more circumscribed. While older physiologists acquiesced in the popular notion that the tongue is the organ of taste, and ascribed to the whole mucous coat of the mouth, and even of the jaws and pharynx, the faculty of exciting impressions of taste, most of the modern school of thought are unanimous in the opinion that only a small portion of the dorsum of the tongue, and that indeed the hindmost and nearest to the throat, exercises the prerogative of deciding on the sapid properties of transmitted substances. It is true that there are those even now who regard the whole surface of the tongue, including its under side and even the mucous membranes which line the orifice of the throat, as embraced within the province of this sense, but in the opinion of many improperly. No one, however, disputes that the hinder part of the dorsum of the tongue is endowed with at least a finer sense of taste; a conclusion which receives countenance from the commonly observed fact that whenever it is proposed to submit any substance to a closer scrutiny of the sense in question, we instinctively transfer it to that portion of the mouth where the hard palate also lends its mechanical aid to the investigation; while it never occurs to any one to test the properties of taste with the point of the tongue, or to introduce the object under the lower surface of that member. If it be difficult to prove conclusively that the rest of the mucous regions under review do not possess a sense of taste, it certainly exists there in a much weaker and more obtuse degree. The discrimination is not so easily made as might be supposed; in such inquiries there are not a few incidental sources of error. In the first place, care must be taken for trial of this sort, to choose substances which excite a pure and simple sensation of taste, and not simultaneously a sensation of touch, which may readily be confounded with the former. We ought not, for example, to select substances having what is called a sharp, hot, or rough flavor, for those are qualities of a sensation of touch, as are the pungent odors spoken of in my previous article on the sensation of smell.* Now, as the sense of touch is unquestionably spread over the entire cavity of the mouth, it will be granted that such substances as the above may readily lead to false conclusions respecting the extent of the gustatory area. In the second place, it is of importance to the proposed investigation that the substance submitted to proof should not be conveyed through the medium of the saliva, in which it is of course dissolved (for only soluble substances are capable of being tasted), to other regions of the oral cavity, and so be carried to that hinder part of the tongue, whose special susceptibility to such impressions is admitted. Nor for this is any movement of the saliva necessary; as a lump of sugar placed at the bottom of a vessel of water will, in dissolving, gradually diffuse itself through the whole mass and reach the surface, so may the solution of a similar substance introduced beneath the tongue penetrate the salivary stratum which overlies every part of the cavity, and attain the nerves of taste situated elsewhere. If this be the case, it will of course be difficult to determine the exact seat of the sensation. On the other hand, we are always prone to refer the sensation of taste to the point to which, by virtue of the sense of place (Ortssin), we refer the impression of touch produced by the contact of the substance with the ends of the nerves of feeling.

If the proposed inquiry be conducted with scrupulous regard to the precautions indicated, the conclusion, I think, can scarcely fail to be reached that only the hinder surface of the tongue is qualified to communicate sensations of taste. The trial may readily be made by every one for himself. Let a small piece of sugar, for instance, be laid on the end of the outstretched tongue, or, as rubbing will tend greatly to promote the sensation of taste, be rubbed thereon, and no perception of the property of sweetness will ensue. Still more convincing will be the result if an intensely bitter substance be employed. The same negative result is obtained if an experiment be made upon other parts of the cavity of the mouth, and with this view the parts to be examined may be touched with a small and delicate brush dipped in the concentrated solution of a sweet or bitter substance. If, in this way, a little drop of melted sugar be conveyed to the uvula which overhangs the surface of the throat, no taste of sweetness is perceived, provided care is taken, in the first place, that the tongue be not brought by the involuntary retching which is apt to ensue from touching this part, into contact with the uvula; and in the second place, wait not so long that the solution shall have time to be diffused gradually with the saliva to the underlying surface of the tongue. If the solution be rubbed in with the brush, the sweet taste will be more quickly produced; but even then it unquestionably arises, not from the uvula, but from the back of the tongue, and the more quickly because diffusion is promoted by the rubbing. I think, in short, that others propose nothing unreasonable, when we thus showed by these experiments that the circumscribed place of the sense of taste to the small tract of surface to which we are disposed to assign it.

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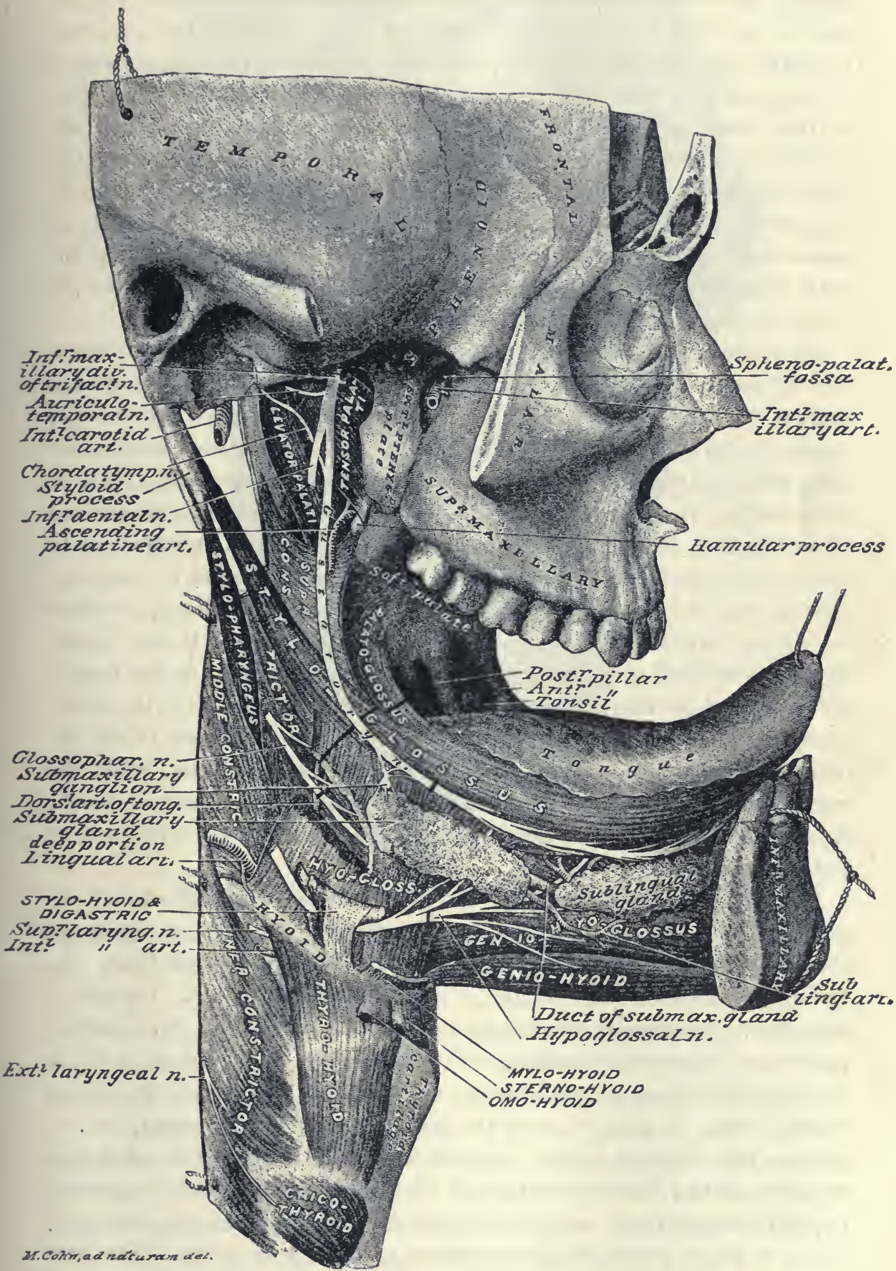
* "Memoir on the Odoriferous Sense." Bleyer, 1896.

The question next occurs, to what arrangements does this region owe its adaptation as an organ of sense? Were there here an apparatus as distinctly destined for the service of the sense as is found for that of sight in the eye, we should be absolved from the necessity of so nice an investigation respecting the local extent of the sense of taste as that just described. But this is not the case. On the contrary, as there is not known a single peculiarity of the region of the tongue empirically assumed as the province of the sense in question; none at least which can be assigned to it with any such manifest certainty as that with which the dioptrical apparatus of the eye, and the auditory apparatus of the ear, may be assigned to their respective functions. Unfortunately, after a long debate, it is not yet quite agreed to which of the special nerves of sense is appropriated the function of taste. No less than three distinct pairs are directed to the tongue, each a fasciculus of those minute fibres which can be compared to the wires of the telegraph, and each springing right and left from different parts of the brain. These are the lingual branches of the widely distributed fifth pair, the glosso-pharyngeal and the hypo-glossol nerves. It is known that neither by microscopical observation nor from any peculiarity can we conjecture the distinctive operation of such a nerve; just as it is impossible for us to infer whether a conducting wire, when we observe it at any intermediate point, is destined to set in motion the hands of a clock or the index of a telegraph. Anatomical research, however carefully it may explore the divarications of each nerve in the tongue, leads us here to no definite decision; as well because the local boundaries of the sense of taste are not established beyond doubt, as because many parts are at the same time supplied by more than one nerve, and because, moreover, that nerve which is directed preferably to the hinder part of the dorsum of the tongue, and therefore has the greater probability in its favor, is distributed also to the entrance and neck of the throat surfaces, to which we know the sense of taste is denied. There remains then, only the physiological experiment from which to await a decision, and this also has its difficulties, though less in the realization than the interpretation of its results. It consists in dividing one of the three nerves, and in this manner intercepting all communication between its two extremities in the periphery and the brain; thus, of course, as effectively preventing the transmission of any current by which a sensible image may be formed, as the communication between two telegraphic stations would be intercepted by a rupture of the wires. After the division of either of the three nerves in a living animal, it remains to try whether the latter still possesses the power of tasting, for should it appear that upon the division of any particular nerve the faculty of the tongue to communicate impressions of taste, on being touched with some intensely flavored substance, is wholly lost, we shall be justified in concluding that the nerve on which we have operated was the vehicle of those impressions. But here lies the difficulty—how to verify the absence or presence of this sensation in the animal. The animal wants speech to indicate it, and an impression furnishes us with no direct objective token of its existence. Resort must, therefore, be had to circuitous proceedings, in using which much circumspection is requisite. We should infer the loss of taste if, after the operation, the animal devours, without signs of repugnance, ill-flavored aliments which, in its normal state, were constantly refused. On the other hand, if such substances are rejected we shall be authorized to infer with more certainty the persistence of the sense of taste, when due care has been taken that the nature of the substance is not recalled to the animal by its effects upon some other sense than that which we are investigating. In such an investigation, therefore, we should employ in the trial no substance which, through its characteristic form, is familiar to the animal's eye, and as little one which is readily known by its peculiar smell; nor is a substance to be chosen which, through the medium of the nerves of touch in the tongue, produces a sensation of smarting or roughness, so commonly confounded with impressions of taste. Finally, in this inquiry, discard anything to which the animal is altogether indifferent. Only such articles, therefore, are free from objection and suitable for a decision of the question as those whose properties can be made sensible to the animal through the sense of taste alone, and none better answers the purpose than a decoction of so bitter and repulsive a substance as colocynth presented in milk. If this mixture be offered to the unwounded dog, allured by the sight of the milk and without suspicion of the foreign substance, he will greedily apply himself to what he supposes to be a well-known dainty; but let a drop once pass the seat of taste and no sign of disgust will be wanting which a dog can manifest.

If, now, one of the three nerves be divided, the glosso-pharyngeal for instance, which chiefly supplies the hinder part of the tongue surface, and find that the dog devours the milk, notwithstanding its bitter ingredient, with accustomed avidity, we may safely infer that the divided nerve was the channel of the sensation of taste, especially when, after a division of the two other nerves, persistent refusal on the part of the animal has testified a perception of the nauseous admixture.

Now, this has been tried with seemingly decisive results: the most careful experiments have uniformly led to the conclusion that the true impressions of taste can only exist when the glosso-pharyngeal nerves are intact; while on the other hand it has been shown with great certainty that the filaments of the hypo-glossal nerve pass to the muscular fibres of the tongue, and by conveying to these the motive current from the seats of the will in the brain, communicate to the organ the power of motion; that, further, the lingual branch of the fifth pair furnishes to the tongue its sensations of touch, thus notifying us of the form, size, weight, softness, or solidity, as well as the temperature, of whatever is introduced into the mouth, and sometimes, too, giving accession to those perceptions of mordacity or roughness which we are apt to confound with the genuine impressions of taste. I shall not here enter into a discussion of the importance of the service rendered by the two last nerves; my good readers will, perhaps, take the trouble of reflecting for themselves upon the manifold disadvantages under which we should lie in the affair of eating and drinking; nay, how impossible in some cases it might prove, if our tongue possessed not the faculty of moving voluntarily in all directions, nor its exquisite delicacy as an instrument for examining the quality of all substances introduced into the mouth. I must also be excused for not attempting to give a detailed anatomical description of the true nerves of taste, as reference can be made to them in all works on anatomy, but give an illustration which will aid you at a glance to search out their course at a glance of the picture. I might,



M. Cohn, ad naturam del.

FIGURE 1.

indeed, have contented myself here, with assuring you that to a certain nerve, called the glosso-pharyngeal nerve, we owe the sensation of taste, but thought best to present to you an explicit statement of the manner in which this fact has been arrived at, because my object in this essay is rather to interest the general practitioner than the specialist. The result of these scientific methods in evincing the glosso-pharyngeal nerve to be the vehicle of the impressions of taste, besides the experiments on animals above described, rests also on some scanty observations made upon man himself; for which, but with extreme rarity, a morbid degeneration or even destruction of the nerve in question has afforded opportunity.

My readers will no doubt willingly dispense with a critical discussion of the dissenting opinions of certain physiologists who regard the lingual branches of the fifth pair as partially, if not exclusively, invested with the functions of taste. The fact above mentioned—that the glosso-pharyngeal nerve, as its name implies, sends filaments to the pharynx, very numerous to posterior epiglottis and anterior surface of soft palate, as well as the tongue—does not furnish an objection to the results obtained by experiments, and affords a ground for the conclusion that the parts of the mucous membrane of the throat in which its fibres terminate possess also the sense of taste. It may easily be conceived that only those fibres of the nerve passing to the tongue are provided at their inner and terminal extremities with the indispensible apparatus (known as taste bulbs) for the reception of the impressions and their conversion into the sensations of taste, while the rest are simply adapted to the transmission of the sensation of touch. According to W. Krause these taste bulbs follow the distribution of the glosso-pharyngeal nerve.

I shall now point out most of the peculiarities of the gustatory organs. Every one must have observed, either in himself or others, or else in the tongue of the ox when it has been prepared for food, that the upper surface of the tongue is not smooth, but rough; though in man the unevenness is so slight, that to the unaided eye this surface presents a velvety appearance, while in the ox it is so rough, both to sight and touch, as to resemble a rasp. Each of the little projections, which occupy it, appear under the microscope as a very composite organ, on the whole of a quiet, regular form. We distinguish, according to their outline, three varieties of these projections: the *fungiform papillæ*, the *filiform* and *conical papillæ*, and the *circumvallate papillæ*, to all of which the general name of papillæ is given. The first

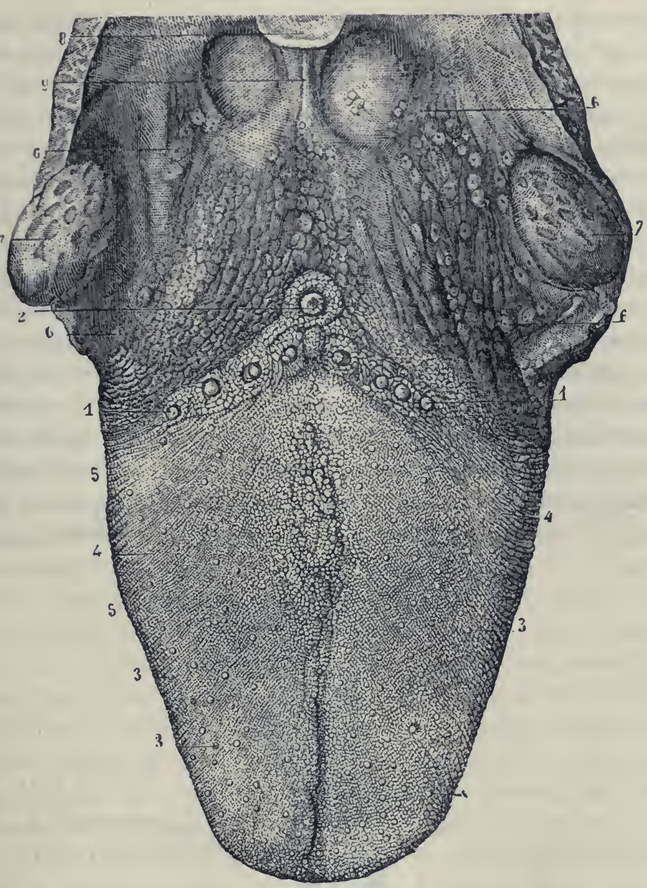


FIGURE 2. Papillary Surface of the Tongue, with the Fauces and Tonsils. (Sappey.)

1, 2, circumvallate papillæ; 3, fungiform papillæ; 4, 5, filiform and conical papillæ; 6, glands and glandular recesses; 7, tonsils; 8, tip of the epiglottis; 9, frænum epiglottidis.

are found especially on the upper surface, on the point of the tongue; the second are distributed over the whole of the member; the third occur only towards its base, where they are arranged upon its surface to the number of from ten to twelve, in the shape of a V. If the tongue be stretched as far as possible out of the mouth, this V and the flattened eminences which form it, placed at intervals and surrounded by a sort of foss, may readily be seen. A more exact description of these three varieties of projections will not, I think, be without interest.

As they are merely elevations of the outer coat of the coat they consist of the same two membranes with that coat, viz.: an outer covering, called the epithelium, and the proper mucous membrane. The epithelium consists of cells multifariously superposed on one another, the uppermost layers of which become dried into flat and angular little scales, while the lower are moist and roundish. By the use of the tongue the former are continually worn off, and may be observed with the microscope as a constant ingredient of the saliva, which they render turbid; to repair this loss new cells are always forming below. The layers thus constituted are destined undoubtedly to furnish protection to the underlying mucous tissue, which contains the fine and easily-wounded vessels and nerves, just as in the external skin the epidermis, which is similarly composed, serves as a protective covering to the cutis. The accompanying figures, representing a section of the different varieties of papillæ magnified, may serve as the groundwork of a more exact description of each. In figure 3 is represented the section of a filiform; in figure 4 that of a fungiform; and in figure 5 a vertical section from a calve of the circumvallate papillæ. In all of

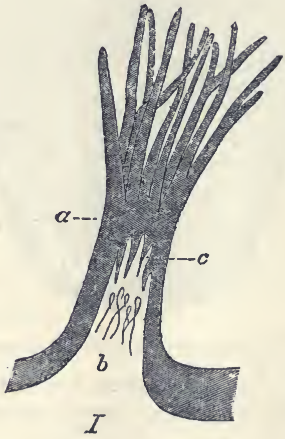


FIGURE 3.

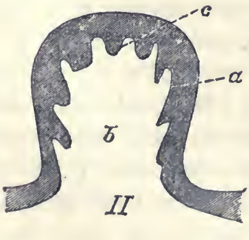


FIGURE 4.

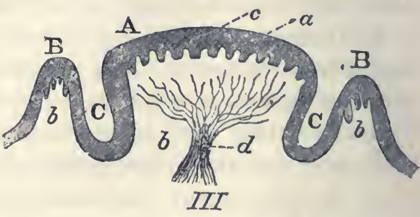


FIGURE 5.

them the part designated *a* represents the epithelium, consisting of squamous and cellular layers; that marked *b* the underlying mucous membrane. It will be seen at first sight that the epithelium in neither form invests the subjacent mucous membrane as a glove does the finger, so that the outer surface of the former shall present an exact impression of that of the latter. In the filiform papillæ it will be observed that the epithelium has a number of long antennæ-like excrescences, giving the papillæ the appearance of a brush, while in the others this covering is extremely smooth, notwithstanding the inequalities of the underlying membrane, *b*, whose surface exhibits in each example a number of successive and rather narrow eminences of a sugar-loaf or conical form. What purpose the antennæ of the first form subserve it is possible to conjecture; but, as regards the regular elevation of the proper mucous membrane, their presence alike in each of the three kinds of papillæ, as well as the circumstance of their existence likewise in the outer skin, leads to the conclusion that wherever they occur, whatever otherwise their diversity, the physiological significance which they bear must be the same. Now as the microscope shows us that, as regards the outer skin and in part the mucous membrane of the tongue, the finest branches of the blood-vessels and the terminal extremities of the nerves of taste, etc., are found in these little eminences, the inference is obvious that this peculiar formation of the surface is imposed on account of the organic contents of the eminences, providing, as it does, suitable receptacles in the periphery for the ends of the vessels, and especially the nerves, and securing their regular distribution over the surface. We may conceive that it behooved that the ends of vessels and nerves should closely approach the outer surface at regular distances from one another, which purpose, indeed, might have been attained had these minute organs penetrated at certain intervals from the mucous membrane into the loose strata of the epithelium; but then they must have wanted a sufficiently stable involucrum to protect them against the pressure and continual wasting of the shifting elements of that covering. Now, such a protection is supplied by the enveloping projections of the mucous membrane which enter into corresponding cavities of the epithelium. I am aware that this teleological mode of considering anatomical arrangements as directed to a predetermined end, and contrived with a view to attaining that end, will at present be received in many quarters with entire repugnance; wherefore I shall not here further insist upon it. Enough if the preceding examples should serve to show how well this manner of viewing the subject is adapted to lead us to an understanding of such arrangements. The clearest method of explaining natural as well as artificial mechanism is, in my opinion, that which bases itself upon teleological principles; how far the employment of teleology for purpose of demonstration may be justified is another question.

Returning to a consideration of the papillæ, I remark that, for a proper conception of them, attention should be especially directed to the delicate structure of the small secondary projections of the mucous membrane, with a view to seeking therein the ends of the nerves and apparatus of sensation. But hitherto all efforts have been fruitless, nor has research in this direction been rewarded with any degree of certainty. Neither in the filiform, nor fungiform, nor circumvallate papillæ has success attended the attempt to explore the ultimate destination of the nerves which direct their minute filaments with extreme intricacy towards the surface, to follow them into the interior of the superficial projections of the mucous membrane and there detect a difference of arrangements which might guide us to a decision respecting a difference of functions. However probable the supposition that the filiform and fungiform papillæ contain the ends and apparatus of the nerves of touch; that the circumvallate, on the other hand, which occupy the centre of the seat of taste and are outwardly so strikingly distinguished, contain those of the nerves of taste (taste-buds), we are now able to furnish anatomical evidence for that supposition, and indeed to establish conclusively thorough physiological experiments. Even the peculiarity of external form of these latter papillæ is not a riddle; then we cannot exactly explain what purpose is subserved by their division into a roundish central elevation, *a*, and an annular periphery, *b*, separated from one another by a distinct *c*. If we ventured to assert that this foss furnishes a sort of reservoir in which the solutions of sapid objects are received in order, by longer contact with the sensitive surface, to take more full effect on the extremities of the taste-buds or nerves of taste, while the passage of those solutions over free surface might be too rapid for distinct perception, we again advance a conjecture for which much proof can be alleged.

Nothing remains for me to say further, therefore, but to wait until, by persevering and patient observation, some deeper insight into the secret mechanism of the organs in question shall be vouchsafed, and material be thereby furnished for physiological interpretation.

A few more of the most recent and closer studied anotomical and histological facts of what we know upon the gustatory organs will be, no doubt, most acceptable. Quain, Arnstein, Drosch, Gruélin, Friedrich, Hönig, Schmid, Lenhossek, Niemack and Tuckerman,* all these combined researchers in this branch of study teach us all that I am going to relate regarding the minute new points in connection with these organs. To begin with again, by way of recapitulation partly: The gustatory organs are represented by certain patches, or groups, of peculiarly modified epithelium cells, which are lodged in the thickness of the stratified epithelium of certain parts of the tongue and pharynx. These groups of cells have in mamals a bud-like arrangement, and have, therefore, been termed *taste buds*. They occur in man at the sides of the papillæ vallatæ of the tongue, forming a zone around the papillæ, and also upon the opposed wall of the vallum. They are also found on the fungiform of the papillæ of the back and side of the tongue, extending to the lip, and here and there in the epithelium, covering the general surface of the same parts of the organ. They are especially numerous over a small area just in front of the anterior pillar of the fauces (*fimbria linguæ*). The area usually displays four or five longitudinal folds, or elevations, of the mucous membrane, and appears to represent a much better defined oval laminated structure, which is found in a similar situation in the tongue of some mamals (*e. g.*, rabbit), and which is known as the *papilla foliata* (Figure 6).

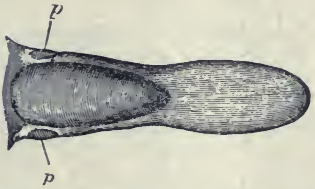


FIGURE 6. View from above of the Rabbit's Tongue Showing the Papillæ Foliatæ. (E. A. S.)

Flask-shaped organs, similar to taste buds, were discovered by Leydig in fishes in certain parts of the skin, and they also occur in the mucous membrane of the mouth and throat in those animals. In amphibia the taste organs take the form of patches of modified epithelium cells, set on the surface of certain *papillæ* of the tongue. The structure of the taste buds is most easily studied in sections of the papilla foliate of the rabbit.

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*The entire minute anatomy herein described has been taken from the various authors named. To "Quain's Anatomy" I am much indebted for some descriptions used on the cells of the gustatory organs.—AUTHOR.

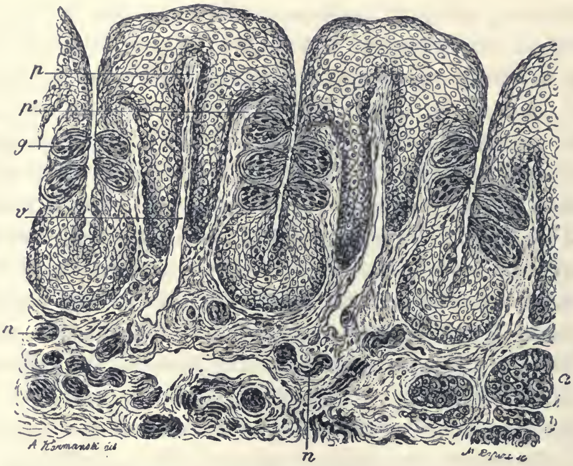

FIGURE 7. Vertical Section of a Foliate Papilla of the Rabbit, Passing Across the Folia. (Ranvier.)

p, central lamina of folium; *v*, vein; *p'*, lateral lamina of folium; *g*, taste bud; *n*, sections of nerve-bundles; *a*, serous gland.

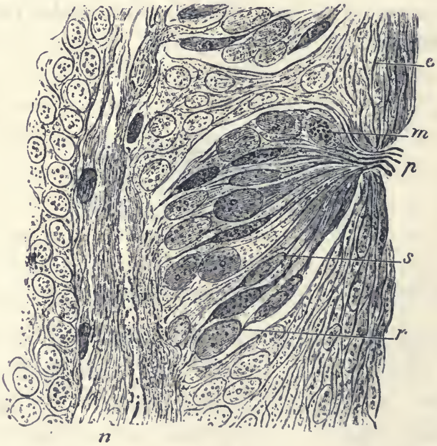

FIGURE 8. Section Through one of the Taste Buds of the Papilla Foliata of the Rabbit. (Ranvier.) Highly magnified.

p, gustatory pore; *s*, gustatory cell; *r*, sustentacular cell; *m*, leucocyte containing granules; *e*, superficial epithelium cells; *n*, nerve-fibres..

Taste buds have been compared in general form and appearance to the leaf buds of a plant. They are flask-shaped bodies, the base of the flask resting upon the corium of the mucous membrane, and the apex projecting towards the free surface of the epithelium, and emerging between the ordinary flattened surface cells of the stratified epithelium. The cells of the stratified epithelium are adapted and applied to the outer surface of the taste bud, and form a sort of adventitious capsule for it. The most superficial cells may even be perforated to allow of the access of the apex of the taste bud to the free surface. In any case the apex does not quite reach the surface, but is approached from the surface by a small opening, the gustatory pore. Into this a bunch of fine hairlets, prolonged from the gustatory cells of the taste bud, is seen to project.

Every taste bud contains two kinds of cells, termed respectively the *sustentacular* and the *gustatory* cells. The *sustentacular cells* (Figure 9, *b*) are long and spindle-shaped, tapering to either end. They form a complete envelope to the taste bud, being fitted together like the staves of a barrel; these surface cells are flattened from within out. Other sustentacular cells lie within the taste bud amongst the gustatory cells, extending from apex to base of the taste bud.

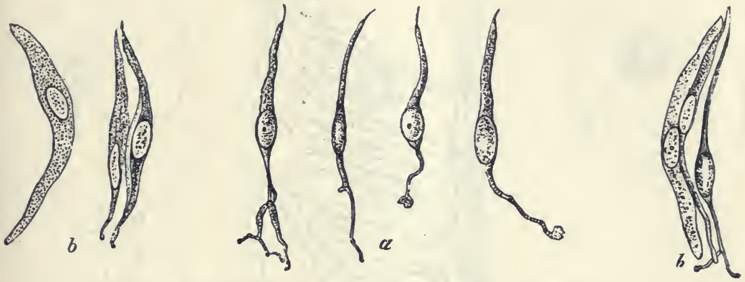

FIGURE 9, Cells from Taste Buds of Rabbit. (Engelmann.)

a, four gustatory cells; *b*, two gustatory and one sustentacular cell; *c*, three sustentacular cells.

The *gustatory cells* closely resemble in general appearance the olfactory cells of Max Schultze. From the nucleated body of the cell, which is somewhat bulged, two processes extend. One, the peripheral, is nearly straight, and passes to the gustatory pore, where it ends in a cilium-like projection, the *taste-hair*. The other process, the central one, passes towards the base of the flask; it may be fine and varicose, and often bifurcated or even further branched, and, according to G. Retzius and Lenhossék, it ends in a free extremity or extremities, and not, as was formerly thought, in continuity with the nerve-fibrils which pass to the taste bud.

Each taste bud receives a small bundle of nerve-fibres, derived, at least in the case of those of the papillæ vallatæ, from the glosso-pharyngeal nerve. The nerve fibres lose their medullary sheath as they enter the organ and are continued as axis cylinders which end by ramifying amongst the gustatory cells (*intrabullar ramification*) Figure 10), without, as has been just stated, coming into actual continuity with these cells. A number of nerve-fibrils also pass into the enclosing capsule of stratified epithelium and end by ramifying between the cells of that epithelium (peribulbar ramifaction, Figure 10, *p.*). These peribulbar nerves are believed to be nerves of general sensibility and not gustatory.

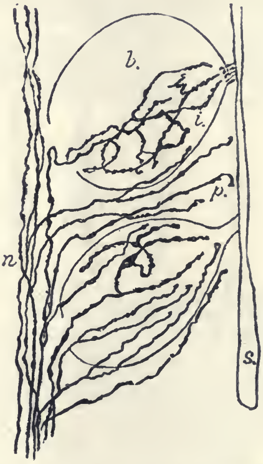

Figure 10. Ending of Nerve fibers in and around Taste Buds of Rabbit: Golgi Preparation. (G. Retzius.)

Section of the glosso-pharyngeal nerves in young animals is followed by atrophy of the taste buds after some time. The taste buds of the anterior part of the tongue appear to be supplied by the chorda-tympana nerve.

When a comparison is made of the modes of arrangement of sensory cells and nerve fibres in the different organs of special sense, we find that our knowledge in regard to the gustatory organs is still imperfect. It has usually been supposed hitherto that the central processes of the gustatory cells are prolonged into nerve fibres, and, if this were the case, these cells would come into the same category with the olfactory cells of the nasal mucous membrane. But according to the most recent observations, the central process of the gustatory cell is not continuous with a fibre of the glosso-pharyngeal nerve, and the connection of the gustatory cells with the fibres of that nerve is indirect and not by continuity. If this is so, the arrangement in the gustatory organ would appear to be somewhat similar to that which obtains in the general integument and in the auditory organ. (Fig. 11).

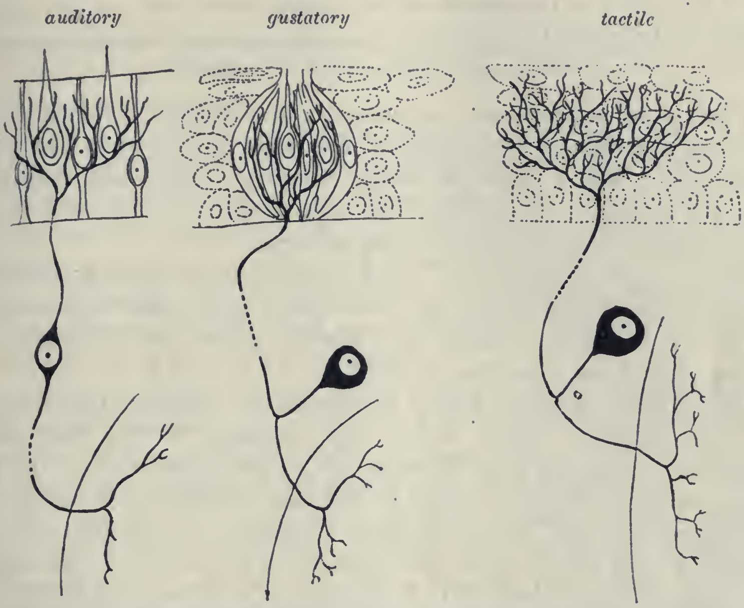

FIGURE 11. Diagram Showing the Mode of Termination of Sensory Nerve Fibers in the Auditory, Gustatory, and Tactile Structures of Vertebrata. (After G. Retzius.)

[CONTINUED IN NEXT NUMBER.]

SOME AFFECTIONS OF THE MEMBRANA TYMPANI.

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That there is frequently considerable difficulty in differentiating between affections of the tympanic membrane and those of the tympanic cavity will, I think, be readily admitted. This fact, together with the necessary differences in the treatment of the two conditions, must be my excuse for the following remarks.

Simple acute myringitis is, in my experience, a decidedly rare condition; in fact I find among my records only three cases that deserve a place in this limited class, and whether or not one of these three belongs here I am somewhat doubtful.

Of the other two cases I may summarize the history, appearances, etc., as follows: Cause, in one case bathing, in the other case unknown; symptoms, pain, quite severe, in one case two days, in the other six days; tinnitus, slight in one case, absent in the other; no discharge; deafness, not more than moderate in both; tuning-fork (middle C, 512 vibrations to the second), on the vertex, heard louder in the affected ear in both; B.C. louder than A.C. in both; appearances, quoted from the histories taken at the time; No. 1, posterior-superior quadrant markedly bulged and very red—rest of m. t. only moderately red; No. 2, multilocular bleb occupying the inferior half—upper part reddened and swollen. While observing the membranes the patients inflated the ears by Valsalva's method, when the whole membrane was forced outward. The blebs were then carefully punctured, in both cases followed by the escape of a few drops of clear serous fluid. Valsalva inflation was again done, as before, and while using the diagnostic tube, and absence of perforation clearly demonstrated, showing that the serous fluid was immediately under the outer layer of the membrane. Treatment: in one case, one leech in front of the tragus, and dry heat; in the other, frequent use of the hot douche for 24 hours; both recovered entirely in a short time.

In the third, doubtful, case, the history was as follows: Severe pain and occasional tinnitus for six days; hearing much impaired; tuning-fork, from vertex, louder in the affected ear, but A.C. louder than B.C.; a large plug of cerumen in the canal. After this was removed there was seen a whitish polyp-(pear)-shaped tumor with a broad base, attached to the posterior-inferior quadrant. This was removed with but little difficulty by the use of a probe, leaving a bleeding surface. The rest of the m. t. was quite red. The middle ear was easily inflated, and there was no perforation of the tympanic membrane. After removal of the cerumen (which had but little to do with the deafness) and this growth, the hearing distance for whispered words increased from fourteen inches up to ten feet. One leech was applied in front of the tragus, a blister over the mastoid, and the case recovered in a few days.

What this little polypoid formation was, I do not know—it was unfortunately lost before a microscopic examination was obtained. I have wondered if it was a localized necrosis of tissue, due possibly to pressure of the cerumen. As indicated above, I have also wondered whether or not it was really a case of acute myringitis. Of this much I am quite sure—the trouble, outside of the cerumen, was limited to the membrane, and there had been symptoms referable to the ear for only six days before I saw the case.

Myringitis Hemorrhagica, really a form of acute myringitis, is by no means uncommon, and of this variety I find among my records the histories of a considerable number of cases. In the majority of them it was an accompaniment of otitis externa hemorrhagica.

The most frequent *causes* were grippe, head-cold, lying in a draught, etc.; one case was attributed to getting water in the ear, another to a severe attack of vomiting, which was followed immediately by the ear symptoms. Symptoms: pain, usually characterized as severe, has been present in all but two of my cases; almost as frequent has been tinnitus, either constant and very troublesome, or coming at frequent intervals; in about half the cases there was present, when they were first seen, a slightly bloody serous discharge, due to rupture of the extravasations; the deafness varied greatly in amount, in some being slight, in the majority not more than moderate, and in a few very considerable. Tuning-forks; in all cases heard from the vertex in the affected ear, and as a general rule A.C. louder than B.C. Appearances: on examination with the speculum and mirror, owing to the trouble being in great measure an accompaniment of otitis externa hemorrhagica, blood-blebs, either unruptured or with the fluid escaped or escaping, will be seen on one or more of the canal walls, obscuring entirely a view of the membrane. After puncturing those still needing it, allowing the walls to collapse, and gently wiping out the canal, the extravasations on the membrane become visible. These are not infrequently multiple, two or three often being present, and are of a very dark purplish color. They appear as localized prominences on the membrane, and do not look like a bulging of the whole membrane, as in middle ear effusion, the dark color being also a differential diagnostic point. However, where the blebs have already ruptured, the difference is at first very difficult to make out between this condition and an acute middle-ear suppuration with perforation of the membrane; as a rule, in myringitis the deafness is not so great, the exact appearance of a perforation is absent, to the practiced eye the depth of the canal is not so great as when the membrane is absent, and, if further evidence is needed, inflation fails to cause a perforation whistle.

Treatment: the extravasations, if unruptured, are punctured at once, great care being taken to go through the external layer of the membrane *only*, leaving the two inner layers intact. As a rule, local bloodletting, with from one to three leeches in front of the tragus, adds greatly to the patient's comfort; in addition to this, the gentle use of the hot douche (as hot as can be borne) about once in three hours for two or three days, keeps the canal cleansed and eases the pain. It was formerly my custom in these cases to blister behind and below the ear, but this I have now about abandoned, having found that the condition rapidly disappears with the measures above described.

Myringitis Circumscripta.—Two of my cases seem to deserve this name. One of them was an accompaniment of otitis externa hemorrhagica ; in this case the *symptoms* were constant tinnitus and severe pain for four days, with tenderness in front of, and below, the auricle. Appearances: two hemorrhagic extravasations on the canal walls; near the center of the membrana tympani a circumscribed prominence, light red in color, which on puncturing was found to contain serous fluid which had elevated the outer layer of the membrane. In this case the hearing was very considerably impaired.

The other case was an uncomplicated one—no external ear trouble, no middle ear trouble. Symptoms: for two days pain, felt rather below, than in, the ear; slight deafness ; slight sub-aural tenderness due to a swollen lymphatic gland. Appearances: external auditory canal, normal; membrana tympani, just behind the malleus handle, a distinctly localized, red, tender swelling, which ruptured very easily (while investigating it with a probe), with the escape of two or three drops of serous fluid. Inflation by the Valsalva method pushed outward the membrane, with no evidence whatever of a perforation. After rupture the case recovered almost in twenty-four hours, with the use of nothing but dry heat.

We now come to another, not inconsiderable, class of cases:

Myringitis Chronica.—In almost all of my cases I find an interrogation point opposite "Cause" in my history blanks, so that I am unable to throw any additional light on the etiology of chronic myringitis. Symptoms: in a few cases, occasional moderate pain and inconstant tinnitus, and in all the cases slight, interrupted discharge, usually foul-smelling, and moderate impairment of hearing. Appearances: in all cases pus, in larger or smaller quantities, at the inner end of canal, or as a thin layer over the membrane ; after thorough cleansing, some granulation tissue, usually covering only a small portion of the membrane, though occasionally spread over the whole surface.

In two cases a very small polypus was found attached to the short process of the malleus, the remains, in my judgment, of a more extensive myringitic inflammation. Their removal, and mild cauterization of the base, resulted in both cases in a cure within three days.

Treatment of the other cases consisted in the first place of thorough cleansing, either by syringing or by the use of hydrogen peroxide; according as the granulations were large or small, this was followed, *after thorough drying*, by applications respectively of chromic acid or liquor ferri chloridi, or, in a few cases, of nitrate of silver, from 120 to 480 grains to the ounce. Then a thin layer of powdered boric acid was blown over the surface, and as a rule the ears needed no home treatment. After three or four days the patient should return, and, if indicated, the same treatment repeated. After from one to four treatments nearly all of my cases have recovered, the hearing being restored to normal.

Another condition for which the aurist is not infrequently consulted is that caused by traumatism, and which may well be called *myringitis traumatica*. About 90 per cent. of my cases have occurred in women, and have been due to the inevitable hair-pin, with which they have been too vigorously picking the ear. When seen in the other sex, if a hair-pin had not been borrowed from some female member of the family, it was due to a match or tooth-pick. The resulting symptoms are tinnitus and pain, with deafness, in varying degrees, and, in rare cases, slight hemorrhage. With this combination of symptoms the patient often comes in great fright, fearing they may have done the ear irreparable injury. This state of mind should be made use of to impressively warn the patient against the continuance of the bad habit. On examining the ear, distinct evidence of traumatism will usually be seen in some portion of the membrane, and frequently along the canal walls. The best thing to do in the way of treatment is to leave the ear entirely alone, unless the pain be too severe, in which case a leech in front of the tragus, with or without dry heat (hot-water bag), will usually bring the desired relief.

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NASAL AND AURAL HYGIENE.

BY F. B. EATON, M.D., SAN JOSE, CAL.

(Formerly of Portland, Ore.)

The hygiene of the upper respiratory passages and of their dependent aural apparatus is worthy of more attention than it has received. Its most important feature is, of course, the prevention of coryzas, universally recognized as of constitutional origin—a result of the so-called "pre-catarrhal state," induced notably by confinement indoors and imperfect metabolism, the latter being a sequence of faulty diet.

But the care of the nose and ears as individual members should not be neglected. Let us consider some of the local sources of their derangement.

Trauma.—The injuries resulting from falls and blows in childhood are familiar to us as deflected septa, etc., and, naturally, are mostly unavoidable; in later life we learn to guard this tender organ with solicitude. Nevertheless, outside the foot-ball gridiron, who has not at times viewed with sympathetic alarm the rough handling of a ruby-colored nose by its possessor when afflicted with a coryza? At no other time does it need to be treated so gently by its owner, who, scores of times a day, grasps it as he would the handle of a garden rake, and after blowing it with an energy out of proportion to the occasion, finishes by wringing it like a fowl's neck. Hence the persistency of certain coryzas and the lasting nasal congestions set up, subsiding when the over-zealous use of the handkerchief is abandoned.

Patients should be instructed to blow gently *into* the handkerchief, not to grasp the nose and imitate the music of a cornet player.

It is unnecessary, perhaps, to state that the habit of picking the nose is like all habits originally induced by some unhealthy condition, local or general. Yet it *is* a habit after all, and one to be sternly eradicated.

Dust and Moisture.—There is much indifference to the evils of dust and very dry air. It seems well nigh impossible to get those thus exposed, especially those working where there are acrid chemical fumes, to wear a mask or inhaler. But like many other things, persistent use renders such apparatus tolerable, and their benefit is eventually appreciated if they are really efficacious. In offices heated by steam there is commonly much complaint of the irritating dryness of the air —a condition easily remedied, but ignored, and doctors' bills incurred instead.

Bathing and Diving.—The oft-repeated warnings to surf-bathers, and particularly to those who dive, to protect their ears from the water by cotton plugs, etc., is not generally heeded, to judge by the damage often traced to its neglect. They who have lost the membrana need to be especially careful, and to give up diving. The tympanum is readily protected by the cotton plugs firmly introduced, but in diving even then the air in the nasal fossæ, accessory sinuses and naso-pharynx is compressed and partially escapes by the Eustachian tubes, and in consequence the water enters so far and high in the nasal fossæ as to painfully irritate the pituitary membrane, and leads to protracted congestion. Such a case has come under the writer's supervision.

Constitutional Hygiene.—A depreciated condition of the whole system, most frequently the result of sedentary occupations, is fully recognized as the most prolific cause of nasal and aural catarrh, and as contributing to this we may include tobacco and alcohol. What to do with the victims of the greed for money, who toil in offices no better than a Chinaman's shack, often puzzles the conscientious medical attendant. Better to cease his prescribing and give such patients a tactful lecture on how to live, and particularly how to get some exercise. Ay! there's the rub! Tell your banker patient, who has persistent nasal, gastric and duodenal catarrh, that he must exercise, and a cold, indifferent, bored expression comes upon his face. The word *exercise* is associated in his financial mind with chest-weights, dumbbells, horizontal bars, stiff muscles and *muscular work*, and he hates to use his muscles. Tell him that "the best thing for the inside of a man is the outside of a horse," and he will reply, "Oh! I don't care for riding." The problem, in short, is to find some form of exercise that will, in the form of a game, such as hand-ball, basket-ball, etc., remind these men of failing powers of self-amusement that they actually were once boys, and gradually lead them on to make use of their neglected muscles. They who should not at first take active muscular exercise, should take it *passively*; *i. e.*, they should be put in a hot room or steam box, or even a thermal bath, a gentle (at first) perspiration induced, and then have a "rub-down" from the attendant, and finally be showered off with cool water. The benefit derived from this, carried out, say three times a week, is very great, and is its own reward.

Y. M. C. A. Building.

CLINICAL REPORTS.

DISEASES OF THE MIDDLE-EAR.

CLINIC BY PROF. POLITZER.

REPORTED BY L. D. BROSE, M.D., PH.D., OF EVANSVILLE, IND.

In our study of diseases of the middle-ear we make two grand divisions: (1) Those diseases of the mucous membrane which run their course without inflammatory manifestation (without reaction), and without perforation of the drum; and (2) those diseases of the mucous membrane where the reaction is distinctly inflammatory in nature, either with or without fever, or with or without perforation of the drum. In the first group we associate middle-ear catarrh: (*a*) serous catarrh, recognized by a serous or slimy exudate within the middle-ear cavity; (*b*) adhesive catarrh, where the drum membrane is directly, or through organized lymph, adherent with the inner tympanic wall; (*c*) sclerosis, which represents a stage between middle-ear disease and labyrinth disease, and is due to a bony proliferation in the labyrinth capsule, causing anchylosis of the stapes. As causes of middle-ear catarrh we recognize acute and chronic naso-pharyngeal inflammation, the acute exanthemata, influenza, syphilis, paralysis of the soft palate, and growths in the upper pharyngeal cavity, which through pressure, impair and destroy the permeability of the Eustachian tube. In serous catarrh the position of the drum may be either normal or bulging, or retracted, and the exudate may or may not be visible. Recognition of an exudate through the tympanic membrane depends upon the amount of fluid present, its position and character, together with the amount of congestion of the middle-ear blood-vessels. Such disease may terminate in recovery through re-absorption of the fluid, with complete restoration of the hearing. The adhesive catarrhs are characterized by the formation of new connective tissue in the mucous membrane lining the middle-ear, which impairs the hearing by interfering with the vibration of the drum or the ossicles. By predilection the new-formed connective tissue occurs oftenest in the upper middle-ear, over the head of the malleus, and in the fenestra rotunda and ovalis. These adhesive catarrhs may be curable. In the inflammatory middle-ear disease we usually have pain, swelling, rapid exudation of slimy pus, and strong reaction. The drum is red and swollen, and the inflammation reaches its height rapidly and then declines. The re-absorption of an inflammatory exudate on account of the development of numerous blood-vessels may be rapid; whereas in the serous catarrhs, where new blood-vessels do not develop, the re-absorption takes place slowly. In acute inflammatory otitis media simplex we do not have perforation, but the exudate remains a number of days, when it again disappears through re-absorption. In acute media suppurativa we have perforation of the drum as the characteristic symptom, which perforation may or may not again heal. The chronic form of suppurative otitis media lasts a long time, and there may not only be extensive destruction of the drum, but likewise caries and exfoliation of bone, together with adhesions, polypi, cholesteatomata, sinus phlebitis, and brain abscess.

The types of disease we have laid down are not always defined sharply, but run into each other, and an exudate in a simple middle-ear catarrh may lead to suppuration. The patient I now show you, a young man 19 years of age, has had otorrhœa since childhood up to two years ago. The hearing is better since the otorrhœa has been arrested. However the reverse may be true, and such patients may hear better while the ear discharges. The explanation of this is that the moisture kept up by the discharges flowing over the hypertrophic mucous membrane in and around the stapes keeps it relaxed and from shrinking, and thereby interfering with the transmission of sound through the chain of ossicles and the fenestra ovalis. You will notice in this man that the incus-stapes articulation is distinctly visible, while the drum is retracted moreover, more so in some places than in others. When we test his hearing by whispered voice we find he hears distinctly at but two yards. The long perception of the tuning fork is heard longer in the diseased than in the healthy ear—evidence that the auditory nerve is unaffected. We next proceed to inflate the ear by my method, after which, if the membrana tympana is adherent only in places to the inner wall, we will see that it bulges outward everywhere except the points where the adhesions are firm enough to prevent it. He now, you observe, repeats correctly whispered words at from four to five yards. The permanency of the improvement can not now be foretold, and will depend upon whether the simple catarrh still exists. You may heal a suppurating middle-ear inflammation, but if an accompanying catarrh is still active the hearing will not be restored, and may on the contrary even grow worse. Also changed normal middle-ear tension, through swelling of the Eustachian tube, may, after you have cured an otorrhœa, still defeat restoration of the hearing. At my examination after inflating this patient's ear, I noticed a faintly-reflected yellowish color from within the tympanic cavity—evidence, in my opinion, that we have to do in addition with a catarrhal exudation. We now do a paracentesis, and by combined tubal inflation and aspiration with a Delstance instrument remove a little slimy fluid, with the result you see of further improvement in the patient's hearing. He now correctly hears whispered words at seven yards. Whether the improvement will be permanent or not we will determine at our next meeting.

VIENNA, Oct. 28th, 1896.

OPERATION FOR MASTOIDITIS, COMPLICATED BY HEMORRHAGE FROM LATERAL SINUS; RECOVERY.

BY CLARENCE R. DUFOUR, PH.D., M.D., WASHINGTON, D. C.

Physician in Charge of Eye Department Eastern Dispensary; Ophthalmologist and Otologist to Sibley Memorial Hospital; Assistant in Eye and Ear Department of Central Dispensary and Emergency Hospital; and Instructor in Ophthalmology and Otology, Georgetown Medical College.

As all cases of mastoiditis complicated by hemorrhage from the lateral sinus, in my opinion, are of interest, I hereby report the following:

J. G., a young lad twelve years of age, was brought to my office by his father, who gave the following history: His son had had "a running from his ear" for about one month, the result of a severe cold; the last few days the discharge had ceased, whereupon the ear began to pain and the mastoid region to swell; the auricle stood out very prominently from the head; the pain in the ear and head was so intense, that for the last two or three nights he could not sleep, but tossed about the bed incessantly. He had been attended by a physician who, when the latter condition did not yield to his treatment, referred him to me.

Upon examination I found a perforation in the post-superior quadrant of the membrana tympani; considerable redness and œdema of mastoid region, which was painful upon pressure; the auricle stood out very prominently from the head; temperature, 100° F. I ordered him put to bed, and hydrogen peroxide instilled into the ear, to be followed by syringing out with a hot solution of boric acid; ice bags were applied over mastoid region. The pain and some of the chemesis subsided, and it seemed that an operation would be avoided.

The improvement continued for several days, when the pain and swelling returned with even more severity than at first. I then informed the father that an operation must be performed at once, as any further delay would be disastrous. He gave his consent, and I had him conveyed to the Sibley Hospital; called in consultation Dr. Burnett, of this city, who agreed with me in regard to the necessity of an immediate operation. After total anesthesia, we made the usual incision, behind the auricle, down to the periosteum, which was removed very carefully, as we expected to find a perforation through the bone. Upon its removal, we discovered a small opening in the bone above the superior wall of the external meatus, and about three-quarters of an inch behind it. Before any exploration could be made, there was a sudden gush of dark blood through it, which we recognized as from the lateral sinus. As further procedure with the operation was impossible, firm compress of iodoform gauze was put over the perforation, which was held in place by a bandage put on as tight as we deemed best, and the patient put to bed. A nurse was stationed at his bedside, and directed to remain there constantly through the night, to watch that the bandage was not displaced, also to take his temperature every three hours. He was kept very quiet, and a supervision of his temperature maintained for a week, during which time it did not go above 99° F. or fall below normal. On the tenth day the bandage was removed and the operation finished by going into the antrum, partially chiseling away the posterior wall of bony meatus. Considerable pus was found in it; all of the necrosed bone was removed, and free communication established between antrum and external meatus. The wound was closed with sutures, leaving a small opening for drainage. The external meatus was lightly packed with iodoform gauze; a bandage was then put over wound.

He made an uninterrupted recovery. There was no discharge from the ear during it, nor has any appeared since he gained in strength, weight and color, and has had no pain or discomfort at any time since leaving the hospital. He returned home in about one month from the time of first operation.

It is interesting to note that, notwithstanding the amount of pus in the antrum and that there was a discharge of it through the perforation, that none of it found its way into the circulation through the lateral sinus.

It is the opinion of the writer that where there is a perforation found through the bone, especially when in the location of this one, the objective point in the operation should be the antrum, that should be freed from all necrosed material; free drainage through the external meatus should be made, the ossicles removed if found decayed, then the pus tract through the bone should be followed and all necrosed matter removed.

The cause of the hemorrhage, in my opinion, was that there had been a partial erosion of the walls of the lateral sinus, as the pus found its way through the bone; that when the periosteum was removed, the support of the weakened vessel thereby was taken away and the blood forced its way through the eroded walls.

1016 I Street.

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EDITORIAL.

COCAINE ACCIDENTS.

The newspapers of Chicago recently devoted considerable space to a case of alleged cocaine poisoning. According to the published reports cocaine was applied to the pharynx, an adherent soft palate was severed from its union with the posterior pharyngeal wall, when the patient's head suddenly drooped, breathing ceased, and the patient was dead.

This happened in a large office building, and in the presence of a dentist who was assisting the operator. Other physicians from adjoining offices were speedily summoned, and every effort was made to resuscitate the patient, but all measures were futile.

Investigation of the case, and the report of the coroner's physician, who made an autopsy, convinced the jury that death was due to emphysema of the lungs and heart failure.

A few days after this occurrence the writer learned from one of his former assistants, Jas. A. Lydston, that a case of death from cocaine poisoning had occurred in Chicago, but had not been reported.

The writer has seen several instances of prostration; great disturbances of the circulation aad respiration; a quick, forcible pulse, becoming small, rapid and intermitting about every ten beats; the respiration slow and shallow, with a sense of constriction about the chest; the skin cold and clammy; muscular spasms; great efforts at respiration, accompanied with loud moaning and a sense of approaching dissolution.

In addition to these effects of cocaine, one of my assistants, E. Pynchon, informs me of a case in which epileptiform convulsions were induced. W. E. Casselberry reports a case of loss of memory; and Max Thorner had a similar experience, as well as a temporary aphonia. Robt. C. Myles believes that many instances of fainting happen, especially in hot rooms.

Poisonous doses produce rise of temperature, loss of speech and memory, blindness, nausea and vomiting, albuminuria, impaired coordination, hallucinations, delirium, unconsciousness, and convulsions of cerebral origin of a clonic type. In this connection it is interesting to note the action of cocaine on the circulation, as given by A. Haig in his work on "Uric Acid," 1896. He says: "The first effect of cocaine, like that of morphine, is to produce a low tension and quick pulse, due to relaxed arterioles; and the result of this is, on the one hand, improved and quickened circulation in the brain, with mental brilliancy and well-being, and on the other relaxation of the vessels in the kidney, causing a marked diuresis of a pale and watery urine. Later on, just as with opium and other drugs, there comes a rebound. The uric acid held back and cleared out of the blood by the first action of the drug is again got into solution, the arterioles are strongly contracted and the tension high; hence the urine is scanty and of high specific gravity, and the mental condition one of lethargy and depression, with sleepiness, as in all cases of high tension.

These considerations emphasize the necessity of occasionally reminding our readers of the accidents that are happening all around them, and of the means to avoid and meet them, for specialists in diseases of the nose, throat and ear employ cocaine far more extensively than the average pyhsician.

A drug that can produce a tetanoid spasm of the cardiac muscle must not be handled carelessly. Perhaps it would be well to attach the following life-saving label to our cocaine bottles: "Cocaine! Poison! A deadly dose paralyzes the inter-cardiac motor ganglia, the posterior columns of the cord, and the sensory nerves and the respiratory centre ! ! !"

Great precautions may appear superfluous to the very conservative. Indeed, the writer has employed cocaine very extensively ever since it came into use, beginning with a four-per-cent. solution and ending with a twenty-per-cent. strength, and the latter has been employed very largely for a number of years without a serious accident of any kind; but he has incidentally witnessed such distressing and alarming effects as are described above. For this reason he has reduced the strength of his solutions, so as not to apply stronger than the ten-per-cent. preparations, always freshly made, as a proper safeguard.

The absence of any accidents, even while using strong solutions, is probably due to the small quantities employed. Sprays of cocaine were never used in the nose or pharynx. Only the area of membrane operated on was subjected to the action of the anesthetic. If the patient began to grow pale and to sweat, stimulants and an abundance of fresh air were provided. High temperature of the room during cocaine anesthesia is avoided.

J. O. Roe avoids the toxic effects of cocaine by preceding its use with a large dose of digitalis, and whiskey nearly to the point of intoxication. Does the latter *treat*-ment reveal the secret of the overworked condition of our prosperous specialists?

Reclus and Myles adopt the reclining position, and the former insists that with a proper observance of the well-known precautions "there need be no fear of syncope, which is the fault of the administrator and not of the cocaine." He has had 3,500 successful cocainizations, but always insists on the recumbent posture until the patient has partaken of food. This suggests that the French surgeon's office-buffet is not to be eclipsed by the Rochester specialist's sideboard.

It is plainly our duty to advocate the use of the weaker solutions of cocaine. Its absorption from the nose is very rapid. The nose and mouth, like the urethra, require especial care in the application of this drug, for upon those parts it manifests its toxic effects with intense virulency.

The observations of Schleich show that prolonged anesthesia of quite extensive surfaces may be produced by very weak solutions by the intra-cutaneous method, and Reclus always uses no stronger than the one-per-cent. solution by multiple punctures.

It is evident that great care is taken by these successful surgeons to use minimum and accurate doses. Just as exacting carefulness should obtain in the field of the nose and throat specialist. In the case of the ear there is diminished danger, because the mucous membrane of the tympanic cavity is of small area. But the surgeon who sprays strong preparations of cocaine into the nasal and pharyngeal passages makes a mistake for which he may sometime pay a penalty. A cotton pledget dipped in a fresh cocaine solution, pressed until free of any surplus, and placed in contact with the area to be attacked, will produce sufficient anesthesia in ten or fifteen minutes. The patient should always be directed not to swallow any of the solution that may reach his throat, but to spit it out. The horizontal position should be chosen whenever it is practicable. A large dose of digitalis should be given shortly before cocainization, and stimulants in case of toxic symptoms.

In severe cocaine poisoning the writer has seen the symptoms yield to amyl nitrate inhalations, the hypodermic administration of one-twelfth of a grain of strychnine, with nitro-glycerine and ammonia internally, and an enemata of brandy. However, it is better to give the brandy first, and not to use the cocaine at all in cases of hysteria or heart disease. S. S. B.

CHARCOT-LEYDEN CRYSTALS.

Much interest has recently been awakened by a continuation of the discussion of the etiology of asthma. Enough has been written on asthma and its causation and pathology to fill many volumes; the present evolution seems to incline to the theory of mechanical irritation rather than to a neurological cause.

In the development of the asthmatic condition, says Leyden, there is a transudation of lymph, the result of catarrhal secretion from the bronchi; this lymph accumulates, and, whatever the pathological sequence may be, fibrin and crystals may separate from the "mother lymph" under certain conditions.

It is very questionable, however, whether the peculiar dyspnœa accompanying an asthmatic attack is to be invariably accounted for on the same pathological basis.

One of the oldest theories of asthma is that of spasmodic contraction of the bronchial muscles, in accordance with the supposition that the vagus nerve is connected with the muscle fibers of the bronchi, and that stimulation of this nerve causes the muscle to contract.

Numerous investigators have verified this theory by frequent experiments on the lower animals, and have tested the various phenomena accompanying stimulation of the vagus nerve.

As early as 1870 Leyden discovered a large number of peculiar crystals in the sputum of a young student of theology, suffering from asthma. They were extremely delicate, colorless, and of pointed octahedral form. They varied in size, some being so small as to require a high-power immersion lens for their detection. In the examination of other lung affections, these crystals were never found.

On the strength of the discovery of these crystals, and combining his research with the theories then accepted, Leyden advanced the theory that the sharp-pointed ends of the crystals stimulated the terminations of the vagus nerve in the bronchi; that this led, on the one hand, to cough and the feeling of oppression, and on the other hand to reflex contractions of the bronchial muscles. Charcot and numerous other clinical investigators indorsed this theory.

VOLUME I.

When the editors first started The Laryngoscope on its voyage of life, considerable doubt was expressed by some of their well-wishers as to whether it would be possible to fill its pages with interesting and instructive matter. It must be confessed that the editors themselves were a little dubious, at first, regarding the willingness of those who could write to give the production of their thought and experience to a new venture. After considerable correspondence it was found that enough able men had agreed to contribute to assure at least three original articles for each issue for a year; then they felt certain that the profession would support their undertaking. That their confidence that there was a field for such a publication was not misplaced is evidenced by the large number of subscriptions and by the encouraging letters received from every section and medical center.

The Laryngoscope *has* occupied the field, and we trust that the profession at large will see that it is properly maintained. The editors respectfully invite the attention of all to the index of this, the first volume, and feel assured that an investigation will prove that no other American publication offers in one-half year the quality and quantity of substantial and profitable reading in the line intended to be covered.

REPRINTS.

In the interests of the many able contributors to our original department, the editors of The Laryngoscope desire to announce that a revised and reduced rate for reprints has just been arranged, a copy of which will be found on advertising page 2. These figures are the lowest possible, considering the class of work furnished.

The initial expenses of introducing THE LARYNGOSCOPE to the Medical profession as a thoroughly high-class journal have been so great, that we were unable to accommodate authors with reprints gratis.

We will, however, beginning with this issue, take pleasure in furnishing 250 reprints, without cover, gratis, whenever the request for same accompanies the manuscript.

LARYNGOTOMY WITHOUT IMPAIRMENT OF VOICE.

The following clinical report will be read with interest, as it pertains to a mooted question:

LARYNGOTOMY (LARYNGO-FISSURE) WITHOUT IMPAIRMENT OF VOICE.

BY J. SOLIS COHEN, M. D.,

Professor of Diseases of the Throat (Emeritus) in Philadelphia Polyclinic; Professor of Laryngology (Honorary) in Jefferson Medical College.

The disputes between surgeons and laryngologists as to the permanent impairment of voice from division of the thyroid cartilage are of sufficient importance to justify the report of all cases in proof of the contrary.

On the 14th of February, 1896, I divided the thyroid cartilage of a child, three years of age, and removed a sliver of turkey bone the size of an adult thumb nail, which had been partially incarcerated for six weeks in the right ventricle. Recovery was prompt, and the patient was removed to her home, still hoarse, in two weeks.

On October 24th, she was brought for examination with a perfect voice and complete freedom of the larynx in swallowing, the advice given to move the integument occasionally having been sufficient to prevent adhesion of the wound in the integument to the wound in the larynx.

It was reported that the voice had become perfect within two months of the date of operation.

SELECTIONS FROM CURRENT MEDICAL PUBLICATIONS.

RHINOLOGICAL.

Therapy in Acute Rhinitis.

Dr. H. J. Mulford (*Am. Medico-Surgical Bulletin*) states that he has been able to break up or cure a cold within twenty-four hours by prescribing podophyllin, $\frac{1}{10}$ gr., or calomel, $\frac{1}{5}$ gr., every hour for five hours, and powders or tablets containing lithium carbonate and sodium bicarbonate, to be taken in water every three hours. The author further says: "It is readily seen, after understanding acute rhinitis, why the classical treatment fails. Drugs that encourage a certain condition do not cure that condition; and a method which employs such drugs is irrational. We must conclude, therefore, that the classical treatment of acute rhinitis is irrational."

Dobell's Solution.

Dr. Edw. Pynchon (*Annals of Ophthal. and Otology*) gives twenty different formulæ for this popular alkaline solution, and then adds his own as follows:

℞	Sodæ bicarb., Merck, C.P.,	
	Sodæ bibor., Squibb	āā ℥ij.
	Listerine	Oss.
	Glycerine, C.P	Oiss.

First mix and triturate the two salts and place same in a one-gallon bottle, adding one-half of the glycerine; let stand twenty-four hours uncorked, with frequent agitations. Add remainder of glycerine, and let stand again uncorked, with frequent agitations, for twenty-four hours. Lastly add the listerine, and let stand for twenty-four hours, when it is ready for use. By the admixture of the glycerine with the salts a "foaming" is produced, which means a liberation of carbon dioxide and the production of a glycerole. Dilute one ounce of the mixture to one pint with water.

Trikresoliodin in Rhinitis.

Dr. J. R. Stewart, resident surgeon Houston Infirmary, reports good results following the use of this new remedy in the treatment of the various forms of rhinitis.

Advantage of Using Warm Solutions of Cocaine.

Costa has found that the local anesthetic effect obtained with cocaine is more rapid, more intense and more lasting if the solution is warm. The dangers of intoxication are thus much diminished, as the quantity of cocaine can be very much reduced if it is warmed. A solution of 0.5 or 0.4 per cent. heated will produce a powerful effect.—*Journal American Medical Association.—Medical Bulletin.*

S. S. B.

Laryngeal Congestion of Nasal Origin.

M. Joal (*Revué Internat de Rhinol.*) writes that such cases may depend upon the following etiological conditions: 1. More or less complete obstruction of the nose. 2. Propagation of vaso-motor attacks beginning in the nose. 3. Reflex action consecutive to erection of the cavernous tissue. 4. Reduction of the respiratory capacity by nasal influence. 5. Functional incapacity of the nasal resonator. Nasal stenosis acts, especially in childhood, in subjects who sleep with the mouth open, and gives rise to laryngitis stridulus. Congestions by extension manifest themselves in arthritic subjects, and are preceded by a nasal fluxion as in beginning coryza. Of patients having congestive attacks of the larynx the author cites five cases in which the nasal origin was established. The hoarseness, the cough and hyperemia of the larynx supervened some minutes after the nasal symptoms. In some cases he was able to produce experimentally laryngeal fluxion by acting upon the terminations of the trigeminal and olfactory nerves. Finally, cocaine applied to the nose arrests the progress of the laryngeal symptoms. The nasal troubles may come either from direct irritation or an exterior and distant focus. Hypertrophic rhinitis favors the development of these reflex manifestations, but they may be occasioned by any gross alteration of the mucous membrane. Nasal obstructions diminish the respiratory capacity and obscure the vesicular murmur. Excessive muscular action is demanded, and the larynx is strained. Congestive attacks are produced, and these at length constitute a chronic catarrhal condition, with alteration of the voice and serious impairment of the singing voice. The second variety includes congestive attacks associated with an insufficiency of the nasal and naso-pharyngeal cavities considered as chambers to secure resonance and strength of tones. In this class again the larynx is forced to over-exertion in order to overcome this impediment. The author cites two cases in singers who had almost lost their voice. The removal of small vegetations will free the naso-pharynx and restore the voice. The same effect follows resection of a spur, the straightening of a septum, ablation of a mucous polyp, and the treatment of a hypertrophic rhinitis or a dry rhino-pharyngitis.—*Medical Bulletin.* S. S. B.

Heterophoria from Nasal Reflexes.

Dr. H. Beckles Chandler (*Annals of Ophthal. and Otology*) calls attention, by the report of four cases, to the fact that muscular anomalies are often induced by enlarged turbinates. He says:

"There are certain peculiarities manifested in these hypertrophied or engorged turbinates; the pupils, as a rule, are dilated, reacting promptly to light, but again dilating, although a bright reflected light is thrown into the pupil. There seems to be a paresis of the third, or an over-stimulated sympathetic, so that examination, with or without atropia, shows but a small amount of lateral accommodation, and where a patient has used a plus 1.50D after treatment, is unable with comfort to overcome a .50D.

"The enlarged turbinate that seems to induce the most discomfort is the middle one, and contact with the septum, however slight, is sufficient to produce annoying and sometimes severe pains."

Friction in Nasal Synechiæ,

Dr. A. W. Watson (*Phila. Polyclinic*) reports good results after using friction in a case where adhesion would persist in forming between the septum and turbinal after a saw and then a galvano-cautery operation.

Dr. C. C. Rice, of New York, suggested this procedure after operation in an article before the New York Academy of Medicine, and stated that a smoother and more moist cicatrix resulted.

Electrolysis of the Posterior Extremity of the Turbinates.

Dr. Helot has made systematic use of electrolysis in the reduction of the hypertrophy of the posterior extremity of the turbinals, and he prefers this to the galvano-cautery and the cold snare (*Archiv. Int. de Laryng.*, March, April, 1896).

He uses a current of from 5 to 12 milliamperes for five to ten minutes. A strong steel needle is passed into each nostril and into the tumefied portion of the turbinate. There is no bleeding except at the positive electrode. With soft tumors the results are rapid. Two applications, with intervals of eight days, are sufficient. For white and hard tumors three or four applications are necessary; or a single application may be made, and the operation finished with the cold snare without fear of hemorrhage. This method is not dangerous, and removes the fear of severe reaction and hemorrhage. W. S.

Nasal Polypus in a Female Infant.

Dr. A. Rupp (*Med. Record*, Nov. 14, 1896) mentions the rarity of the presence of such growths in children. This case was an infant four months old, who was brought to him because the little one was unable to nurse satisfactorily, and presented symptoms of difficult breathing. The father of the child stated that he heard something flap up and down in the left nostril. Examination revealed a pinkish pedunculated polypus, "large enough almost to occlude the left nasal vestibule." It was friable and attached high up. The removal was simple. No syphilitic or catarrhal history could be obtained. Good result followed the extirpation of the tumor. M. D. L.

Papillary Fibroma of the Nose.

Dr. E. T. Dickerman (*Annals of Ophthal. and Otology*) reports an interesting case of this trouble, and concludes a short, practical digest of the literature of the subject as follows:

"In a careful study of the cited cases, we find that true papilloma or papillary fibroma is a rare condition in the nose. It generally develops on the anterior portion of the septum from a small base, is slow in growth, and generally appears in middle life. This is contrary to the views of De Santi and others, who state that it is found generally in children. The growth does not ulcerate or cause infiltration at its base; there is an absence of glandular enlargement, and it can be classed as a benign growth in all respects.

Dentigerous Cyst of the Superior Maxilla.

Mr. Albert Lucas (*Birmingham Med. Review*, Sept., 1896): A small, hard lump appeared under the cheek, and above the first molar tooth, on the left side, of a young man twenty-one years old. It had existed about twelve months before he consulted the author. The swelling gradually increased in size, but was not painful except on severe exertion, when it throbbed. The left cheek was pushed forward. In the mouth there was a considerable swelling along the whole of the alveolar process to the canine tooth. The swelling was soft, and fluctuated posteriorly. No obstruction in nose or pharynx.

An incision was made under chloroform and about three ounces of glairy, clear-colored fluid escaped. The fluid contained much cholesterin. In the cyst cavity a tooth was found imbedded firmly in the bone. This was removed and the wound packed with gauze.

M. D. L.

LARYNGOLOGICAL.

Effect of Drugs on the Secretion From the Tracheal Mucous Membrane.

The following is a summary of the author's work (James Calvert, *Jour. of Phys.*, 1896, XX., Nos. 2 and 3, pp. 157-164.):

1. Alkalies increase secretion.
2. Potassium iodide increases secretion.
3. Emetine markedly increases secretion.
4. Saponin in small doses does not increase secretion; in large doses it diminishes secretion.
5. Cold when applied to abdomen increases secretion.
6. Heat when applied to abdomen diminishes secretion.—*Am. Med. Surg. Bulletin.*

The Nature and Treatment of Quinsy.

J. Homer Coulter (*Jour. Am. Med. Ass'n*, Nov. 7, 1896), in treating of quinsy, discredits the theory that the uric acid diathesis predisposes to attacks. He says: "In my cases rheumatism has not occurred more frequently than has the neurotic temperament, which condition I should hesitate to offer as an etiologic factor of any considerable importance." He believes that the only tenable theory of quinsy is that of a specific bacterium, not yet discovered, and defines the disease as an "acute inflammatory action in the peritonsillar areolar tissue, usually resulting in a suppurative process."

Dr. Coulter's treatment consists in a mercurial cathartic followed by a saline draught, hot gargles, poultices and lactophenin, ten grains every three hours. His reasons for preferring the latter remedy to salol are: "Its action is decidedly more prompt; it has thus far given me no undesirable after-effects; it not only relieves the pain, but reduces the fever with an equal certainty. In cases of evident rheumatic diathesis I should certainly employ in addition thereto my customary remedies."

S. S. B.

A New Communication Upon Autoscopy of the Respiratory Passages—Examination of the Larynx and Trachea Without a Mirror.

Referring to the procedure of inspection of the larynx and of the trachea by direct vision, Dr. A. Kirstein proposes to perform autoscopy, not with the instrument which he at first described, but simply with a tongue spatula and an electric frontal mirror. (*Ann. des Maladies de l' Oreille, etc.*, August, 1896).

The author believes that if the tongue is an obstacle in some cases to the employment of this procedure, a little patience, and even a certain amount of diplomacy, will enable us to examine these parts without having recourse to cocaine. The technique of autoscopy, he states, is the art of pressing on the tongue with the spatula, without provoking reflexes, movements, or suffering, so as to form a gutter which extends as far as possible downwards, and in the direction corresponding with the line of the trachea.

The author believes that this procedure will entirely revolutionize laryngology. He is very enthusiastic over this method, which is, perhaps, not quite as easy to apply in daily practice as he would seem to believe. It appears to us in some cases, to be painful, difficult of application, and in some cases absolutely intolerable. W. S.

Etiology of Peritonsillar Abscess.

Dr. Logneki (*Med. Record*, Nov. 14, 1896), the author, recognizes two forms of abscess in this region. In one, the collection of pus is found between the gland and the anterior pillar. The latter appears prominent on inspection. There is also a bulging of the surrounding tissues and œdema of the uvula. In the other variety, the abscess is found between the tonsil and the posterior pillar. This form gives rise to more disturbance and is more prolonged. Streptococci were found in the early stage of the disease, and staphylococci presented themselves at a later period. These organisms are present in the crypts of the gland in healthy persons, and cause suppuration if an attack of tonsillitis sets in. Adhesives between the pillars and the gland take place, and the foreign material, not finding its way out through the crypts, sets up an irritation in the peritonsillar tissue, causing an inflammation and infection. M. D. L.

Simple Acute Laryngitis and Bronchitis.

Dr. Hubbard thus summarizes the principles of treatment of simple acute laryngitis and bronchitis:

The author's idea of treatment is embodied in the old English medical aphorism: "Never give stimulating expectorants until the skin is moist and the phlegm loose; it will do no good. You must give ipecac and relaxant expectorants as long as the skin is dry and the phlegm tough."

Dr. Hubbard regards the present use of stimulating expectorants, fortified by sedatives, as indiscreet and irrational. He prefers apomorphine, freshly compounded in acidulated mixture. He finds it the best of all relaxing expectorants. In $\frac{1}{30}$ gr. doses at two or three hour intervals it rarely fails to cause a free sero-mucous flow in twelve to thirty-six hours. The best sedative is sulphate of codeine in $\frac{1}{5}$ gr. doses.

Apomorphine in acidulated mixture rarely causes nausea in the doses mentioned, and in fact seems rather to aid digestion and increase the appetite for a limited period. It is slightly laxative. It can be given for many days in doses gradually decreasing as the expectoration becomes more free. Since using this remedy Hubbard has found less and less use for stimulating expectorants and sedatives. The apomorphine should be administered as long as improvement is decided. A sero-mucous bronchial secretion is coughed out very easily. Only in debilitated subjects, or where there is a broncho-pneumonia, has he found it necessary to supplement this treatment with stimulating expectorants. Of these he regards the carbonate of ammonium as the best, administered in a mucilaginous vehicle or as the fresh aromatic spirits.—*N. Y. Med. Jour.; Am. M.-S. Bulletin.*

Mycosis Pharyngis, Leptothricia and Keratosis Pharyngis.

Ten cases are reported (A. B. Kelly, B.Sc., M.B., *Glasgow Med. Journal*, Oct. 1896). Pharyngeal irritation, with at times annoying cough, existed. In one of the cases a 1 to 1,000 bichloride of mercury solution seemed to have a controlling effect, but after the solution was omitted, the mycotic areas disappeared without further medication. The galvano-cautery seemed to prevent the return of the deposits in another case. M. D. L.

A Case of Hemorrhagic Laryngitis of Grippe Origin.

Dr. Compaired reports the case of a young girl of eighteen years, who was a domestic in a family, other members of which had already suffered from grippe. (*Revue Hebdomadaire de Laryngologie, d'Otologie et de Rhinologie*, October, 1896).

When the author made his examination of the patient, she had a copious hemoptysis with a cough, respiratory oppression, and a pricking sensation in the region of the larynx. The whole of the laryngeal mucosa was congested; the hemorrhagic points were confluent, and large vascular arborisations could be distinctly seen on its surface; the cords moved with difficulty on account of the congested and semi-edematous condition of the mucosa. The hemorrhages recurred during the twelve following days.

In conclusion, Dr. Compaired reviews the literature of grippal complications of the larynx, and the affections which give rise to laryngeal hemorrhage.

Foreign Body in Pharynx of Child.

R. C. McCullogh reports a case (*Brit. Med. Jour.*) where cough and difficulty in breathing were noticed by the mother of a child one year old. She thought the baby was suffering from croup. On examining the pharynx, the reporter observed the upper portion of a one and one-half inch brass safety pin lying at the root of the tongue; the remaining portion was over the larynx, grasped by the œsophagus. The pin was open, and its point was caught in the left side of the fauces. After inverting the pin it was readily removed with an artery forceps, without much laceration of the adjoining tissues. The author believes that the pin being open prevented it from being swallowed.

M. D. L.

Thyrotomy for Laryngeal Warts.

Two children, aged respectively three and eight years, upon whom this operation was performed, were shown before the Liverpool Medical Institution, October 22d, 1896 (P. M. Murray, *The Lancet*). Before the operation both children spoke in a whisper. After the growths were removed the voice was strong, but husky. At the same meeting Dr. Hunt and Mr. Paul mentioned two cases in which thyrotomy was done for epithelioma and papilloma of the vocal cord, with good results. A Hahn's canula was employed. (For the removal of papilloma from the larynx, a spray of alcohol has been recommended as an efficacious application. M. D. L.)

OTOLOGICAL.

Normal Middle Ear and Microbes.

Dr. Lannois has made a number of experiments on dogs and rabbits, in order to determine the presence or absence of microbes in the normal middle ear. (*Revue Internationale d'Rhin. d'Otol. et de Laryng.*, July, 1896.)

The brain and the superior wall of the tympanum were removed and cultures made of the mucus of the middle ear in ordinary bouillon, but the results were negative. The middle ear is, therefore, a closed antiseptic cavity. This condition is explained by the bactericidal power of the mucus. This property, which was found to be the case in the nasal mucus by Wurtz and Lemoyez, is also possessed by the mucus found in the tympanum. W. S.

Lactic Otitis in the New-Born.

Dr. Martha reports the following case: A child of four months, vigorous, apyretic, and without adenoid vegetations, was found to have in both ears an accumulation of transparent pus, with a strong odor (*Progres Medical; Revue Internat. de Rhin., Otol. and Laryng.*, July, 1896). The mucous membrane of the canal was macerated and glazed; the tympanic membranes were normal. The accumulations disappeared after the ears had been syringed with an antiseptic solution.

A close observation of the infant developed the fact that after regurgitation, milk ran from the mouth as far as the concha of the ear and into the interior of the canal. A bacteriological examination of the pus did not give any further information. This external lactic otitis is frequently caused by nurses, who introduce drops of milk into the ears of the infants to alleviate inflammation. W. S.

Observations on a Case of Fungous Otitis with Grave Symptoms of Labyrinthal Compression and Threatening Meningitis.

Dr. Jacquemart reports a case of chronic otitis with fungosities which recurred after each removal, and which produced symptoms of labyrinthal compression; the granulation developed rapidly and did not disappear until the mucous membrane of the tympanum had been thoroughly curretted. (*Revue Internationale de Rhin. d' Otol. et de Laryng.*, July, 1896.) W. S.

Aura of Auricular Vertigo.

Dr. Gellé (*Annals des Mal. de l' Oreille, etc.*, translation in *Annals of Ophth. and Otol.*,) thus concludes his article:

"The picture of sensorial phenomena, sensitive or motor, premonitory to the access of auricular vertigo, shows us clearly that the irritation of the auditory nerve produces in man not only the diverse perturbations of equilibrium and movement that the experimentor studies in the laboratory, and which are so well known, but that, moreover, they act upon the psychic centers, provoking the appearance of veritable hallucination of the senses and movements that only clinical observation can teach us."

Temporo-Sphenoidal Abscess Secondary to Acute Left-Sided Suppurative Otitis Media, etc.

Six months after an attack of influenza, the patient, a male, 48 years of age, became affected by a constant pulsating tinnitus, and a marked degree of deafness (W. Milligan, Manchester, *Archives of Otology*, No. 3, 1896). This lasted for three months, when the patient came under the care of the author. Severe pain in and around the ear was constantly present, and very severe. Movement of the head aggravated this symptom. His mental condition was apathetic, and cerebration was slow and sluggish. Sensory and motor aphasia, extreme ptosis, and the left pupil dilated, were indicative manifestations existing. The left optic disc was swollen, and its edges were puffy. Left facial paralysis was observed, but no paresis of arm or leg. A small perforation of the postero-superior segment of the membrane could be seen. Aerial conduction was negative, but bone-conduction was good. The temperature was 98.0° F.; pulse, 66. Operation was advised, but did not take place, till two days later. During the preceding day there had been incontinence of urine and fæces. An opening three-fourths of an inch was made with the trephine, with its centre one-and-one-half inches above and one-and-one-half inches behind the middle of the external auditory meatus. The brain was found bulging, but pulsation was absent. An opening was made into the dura mater, and a pointed director was thrust into the substance of the temporo-sphenoidal lobe downwards and forwards. After entering the brain-substance for about three-fourths of an inch pus was liberated. The sinus was somewhat enlarged, and about four drachms of pus was evacuated. Warm carbolic solution (1 in 60) was employed to irrigate. A soft-rubber drainage-tube was inserted. Temperature fell from 101° F. to 97.8° F., and the pulse from 108 to 82. Improvement was noticed for the first four days, but temperature was somewhat abnormal, and pulse ranged from 90 to 100. Six days after the trephine operation the mastoid antrum was opened and drained. Little pus was found at this location, but the mucous membrane lining the antrum and mastoid cells was intensely congested.

The patient was able to move about the ward in a short time, until a hernia cerebri appeared, which increased very rapidly. Temperature arose to 103° F., and the cerebral wound was probed, but no pus found. Symptoms of basal meningitis appeared, and patient died. Autopsy revealed the abscess cavity empty and shrunken. Diffuse basal leptomeningitis of recent origin existed. No erosion of the roof or parietes of the middle ear was found. The infection was evidently through the lymphatics or venous system. M. D. L.

Foreign Bodies in the Ear.

Preotraschensky (*Glasgow Med. Jour.*, November, 1896), after calling attention to the unpleasant and, at times, serious complications which follow unskillful attempts at removal of foreign substances from the external auditory canal, the author offers the following suggestions:

1. An unskilled person should never attempt the instrumental extraction of a foreign body.
2. Foreign bodies reach the middle ear almost solely as the result of clumsy attempts at removal.
3. The foreign body usually does less harm to the ear than its extraction by an unpracticed hand.
4. The changes produced by the presence of a foreign body in the ear cannot be estimated by the length of time during which it has remained there.
5. The injection of warm water is an infallible (?) means of securing the evacuation of any foreign body from the ear; irrigation with alcohol may be further necessary to prevent swelling of the intruder.
6. There is no indication to expedite the removal of foreign bodies which are giving rise to no troublesome symptoms.
7. In inflammatory processes caused by necrosis from unskilled attempts at extraction, expectant treatment suffices as long as no dangerous symptoms are present. Turpentine and ether for larvæ; these oils cause inflammatory conditions, so we had better resort to instrumental means. (When the foreign element proves to be of the vegetable kingdom, water had better be omitted from the methods suggested, as such a substance readily absorbs moisture, and so increases in size, making its extraction even more difficult than before M. D. L.).

Pure Word Deafness.

Hélot, Houdeville and Halipré (*Revue Neurologique*) report the history of a patient who suffered for a long time from middle ear disease, and observed that alcoholic excesses caused a permanent impairment of his understanding of spoken words. After drinking one day more than usual he fell into a state of coma; on regaining consciousness he was unable to understand what was said to him.

All other parts of speech were intact. He could speak, write, read, reply to written questions, write spontaneously, and copy. He said repeatedly: "I know that you are speaking, but I do not understand; I can count the syllables, but I do not grasp the meaning."

He understood, however, a few words, and could write them on dictation. Musical deafness was almost complete.

As the word-concept was intact it was necessary to believe that the cortical center for word hearing was uninjured, and that the lesion was subcortical. Ordinary hearing was not affected.—*International Medical Magazine.* S. S. B.

Notes on the Electrical Variations Generated in the Acoustic Nerve by Sound.

Drs. H. Beauregard and E. Duprey state that the object of these experiments was to determine the limits of auditory sensation in animals. (*Bulletin de la Societe de Biologie*, 1896.) They employed for this purpose the galvanometer of D'Arsonval with a micro-metric scale, which permits very feeble currents to be recognized. These experiments were made in frogs.

The acoustic nerve having been exposed, it was divided and an electrode applied to the section and another to the tympanum. The electrodes were attached by a thread of copper to the galvanometer. The section of the nerve gave rise to a perceptible current, which was accentuated by the action of noises when these were made near to the nerve. Shrill noises had more effect than grave ones. These experiments were verified in other animals. W. S.

Connection Between the Cortex and the Labyrinth.

Ewald (*Deutsche Med. Woch.*) has found by experiments on dogs that the auditory nerve performs more than the mere auditory function, and therefore suggests that this name is misleading, and that it would be better to call it nervus octavus instead. He states that if the labyrinth is destroyed in a dog the animal loses the coördination of its movements, is unable to stand up, to walk, etc., but in the course of a few weeks these disturbances pass away, and the missing functions seem to be fully compensated in some way. The same phenomena occur if the other labyrinth is also destroyed; in time the animal learns to move as usual, even to run and jump. Similar results are produced by destroying on one side only the "excitable zone" in the cerebrum for the movements of the fore and hind legs; the dog learns in time to run and jump as nimbly as ever, even in the dark. But if later the remaining half of the "excitable zone" is also removed, then intensely severe and permanent disturbances follow. The animal can neither stand nor walk; he can not lie down on his breast or belly, only on his side, and in spite of the most strenuous efforts, he can not get up on his feet. He is still able to move his head, and uses it to propel himself. He gradually learns in time to use his extremities by purely reflex action, but is unable to make a single voluntary movement, and even the reflex movements are impossible in the dark. He loses control of his movements completely if taken into a dark room, and tumbles helpless to the floor; but after the room is lighted he regains control of his movements and is able to move as before. Ewald considers that this throws a new light upon the connection between the sight and the locomotor function. The proof of the extra functions of the nervus acousticus is therefore the diminished muscle power in the animal after the nerve is severed; also the lack of precision in its movements; also the lack of muscle sense, shown by the vertigo. The influence of the auditory nerve on the striated musculature is explained by the presence of the ciliated cells in the labyrinth, which produce uninterrupted excitation of the central nervous system. As the severed auditory nerve does not grow again, the explanation of the disappearance of the disturbances must be that its functions are substituted by other organs. The sense of touch substitutes the function of the labyrinth, as is evidenced by the fact that the coördinating power is not totally abolished until the entire "excitable zone" in the cerebral cortex is removed. The "excitable zone" and the labyrinth are able to substitute each other, and the same is true of the muscle sense and the sense of touch. This explains the comparatively slight motor disturbances in persons with injured labyrinths.—*Jour. Am. Med. Assoc.* S. S. B.

NEWS ITEMS.

The British Laryngological, Rhinological and Otological Association.

The following gentlemen have been elected office-bearers for the ensuing year: President, Dr. Wm. Milligan, Manchester. Vice-Presidents: Dr. J. Middlemass Hunt, Liverpool; Mr. F. Marsh, Birmingham; Mr. G. C. Wilkin, London. Council: Mr. George Stoker, *ex-officio;* Dr. Dundas Grant, Mr. Mayo Collier, Mr. Wyatt Wingrave, Dr. Hemington Pegler. Metropolitan: Dr. James Davidson, Bournemouth; Dr. A. Bronner, Bradford, Extra-Metropolitan. Treasurer: Dr. Wm. McN. Whistler. Hon. Secretaries: Mr. R. Lake, Mr. St. George Reid.—*Medical Bulletin.*

Chicago Post-Graduate School.

The new school and hospital building of the Post-Graduate Medical School of Chicago was dedicated on Saturday, Nov. 7th. Professor Theodor Edwin Klebs delivered the dedication address in the evening, after which the guests inspected the elegant building and refreshments were served.

A special course in diseases of the eye, ear, nose and throat was inaugurated on the 10th inst. by an illustrated evening lecture on "Mastoid Diseases and Operations," by Professor S. S. Bishop.

West Side Post-Graduate School and Polyclinic.

A new school for practitioners of medicine was opened in Chicago last October in the building formerly occupied by the Post-Graduate School. The name of the new candidate for professional patronage is: "The West Side Post-Graduate School and Polyclinic." It is an outgrowth of the old Post-Graduate School, from which the nucleus of its facully was obtained. The directors have expended about $13,000 in improvements on the old building, and now Chicago is blessed with three post-graduate schools, having first-class hospital and teaching facilities.

Antitoxin Collective Investigation (Second), American Pediatric Society.

The American Pediatric Society is encouraged to ask the coöperation of physicians in a further collective investigation. Laryngeal diphtheria is believed to furnish a crucial test for antitoxin. The present aim is to ascertain: (1) What percentage of cases of laryngeal diphtheria recover without operation under antitoxin treatment? (2) What precentage of operated cases recover?

The society asks the record of cases of diphtheria involving the larynx, whether operated or not, occurring in private practice in the United States and Canada treated with antitoxin. It is expected that the cases occurring this year will be treated with reliable preparations of the serum, will be treated early, and will be given efficient doses. The second report is designed to be a study of cases occurring between the closing of the first report, May 1, 1896, and the closing of the present collective investigation, April 1, 1897.

In order to secure data which shall make the tables complete, circulars containing blanks for ten cases have been printed and are now ready for distribution. It is desired that physicians shall fill out circulars, blanks, as cases occur, not trusting to memory, and shall urge their friends having similar cases to do the same. Circulars can be had by applying to the committee (address below). Several groups of cases in the first investigation arrived too late and were lost to the report. It is desired that circulars as soon as filled (ten cases) be returned to the committee. The collection of cases must close at the end of March, 1897.

For extra circulars (blanks) for returning circulars (filled) and for further information, address the chairman of the committee,

W. P. NORTHRUP, M.D.,
57 East 79th street, New York, N. Y.

Western Ophthalmological, Otological, Laryngological and Rhinological Association.

The next meeting of this society will take place in St. Louis on the second Thursday and Friday of April, 1897. Programme of meeting will be ready February 1st next. Members intending to read papers should at once notify the secretary, Dr. Hal Foster, Kansas City, Mo., giving subject so that same can appear in the programme. Railroads will grant one-and-one-third fair on the usual certificate plan.

NEW INSTRUMENTS.

Eustachian Canula.

Dr. Jos. E. Willett (*Annals Ophthal. and Otol.*) describes an Eustachian canula devised by him for use in the treatment of otitis media catarrhalis chronica. The change from the ordinary instrument consists of dividing the canula into two parts and providing an outlet for the return canula of the tube. A continuous vapor current can be maintained. The instrument is not changed in size or shape from the ordinary.

BOOK REVIEWS.

Diagnostic Urinalysis. By M. D. Hodge, Jr., M.D., Professor of Histology, Pathology and Urinology, University College of Medicine, Richmond, Va. Pp. 87. Wide margins; leather bound. Published by George M. West, Richmond, Va. Price, $1.00.

The subject matter of this excellent little volume was recently published in consecutive numbers of the *Virginia Medical Semi-Monthly*, and the author was the recipient of many complimentary remarks as to the excellence of material and arrangement which the papers presented. Much careful and systematic work is indicated. The volume includes in its 87 pages concise directions for all the tests employed in a complete urinary analysis, and is thoroughly practical and up to date.

Transactions of the Louisiana State Medical Society for 1896.

The neatly bound copy of the Transactions of the Louisiana State Medical Society for 1896 has just been issued. The book is well edited, and has been issued with a promptness which should be an excellent precedent for future editions. Of interest to our specialty are the following original communications:

"Sarcoma of the Superior Maxilla Removed; Replaced by Artificial Apparatus," by Dr. E. D. Martin, New Orleans; "The Importance of Making a Careful Examination of the Ear, Nose and Throat from a Medico-legal Standpoint," by Dr. W. Scheppegrell, New Orleans; "The Pathology and Treatment of Deviations and Spurs of the Nasal Septum in Young Children," by Dr. E. J. Moure, Bordeaux, France; "The Influence of Diseases of the Nose and Accessory Cavities on the General Health," by Dr. O. Joachim, New Orleans; "Toxitherapy and Serotherapy of Malignant Tumors," by Dr. S. P. Delaup, New Orleans; "The Roentgen Method of Photography," by Dr. W. Scheppegrell, New Orleans; "Fracture of the Zygomatic Arch; A Simple Method of Reduction and Fixation, with Remarks on the Prevalence, Symptomatology and Treatment of this Fracture," by Dr. Rudolph Matas, New Orleans. W. S.

BOOKS AND PAMPHLETS RECEIVED.

Deviation of the Cartilaginous Nasal Septum; Its Cure. By Emil Mayer, M.D. Reprint, *N. Y. Med. Jour.*, Dec. 14th, 1895.

Cerebral Diseases Following Middle Ear Suppuration. By M. D. Lederman, M.D. Reprint, *Jour. of the Am. Med. Assoc.*, Sept. 12, 1896.

Acetanilide as an Antiseptic in Chronic Suppurative Otitis. By Lewis S. Somers, M.D. Reprint, *Medical News*, April 4, 1896.

Nasal Syphilis with Extensive Lesions. By Lewis S. Somers, M.D. Reprint, *Medical and Surgical Reporter*, April 25, 1896.

Membranous Rhinitis. By Lewis S. Somers, M.D. Reprint, *Univ. Med. Mag.*, August, 1896.

Quinsy: The Differential Diagnosis and Treatment. By J. Homer Coulter, M.D. Reprint, *Jour. of the Am. Med. Assoc.*

Some of the Effects of Chronic Nasal Obstruction. By Charles N. Cox, M.D. Reprint, *Brooklyn Med. Journal.*

The Treatment of Tuberculosis and Other Infectious Diseases with Oxytoxines. A Provisional Report. By J. O. Hirschfelder, M.D., Professor of Clinical Medicine, Cooper Medical College, San Francisco, Cal.

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ORIGINAL COMMUNICATIONS.

AN ESSAY ON THE ORGANS OF TASTE.

AN ORIGINAL MONOGRAPH.

Presented to the French Laryngological Society, of Paris.

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[CONCLUDED.]

While our knowledge of the organs of taste is somewhat unsatisfactory, we are unfortunately not much better off as regards our knowledge of the nature and conditions of the external influences which call forth a sensation of taste of whatever quality. We know well what substances produce such sensations, and bear in mind a correct idea of the kind of impressions connected with their use, so that we again recognize the substances by that impression, or, even without their presence, easily recall in imagination the sour, or sweet, or bitter qualities which distinguish them. But this knowledge, in which the epicures must be recognized as graduates, though the basis of our practical use of the sense of taste, avails us little or nothing to a mastery of the physiological theory. We know even more: we know accurately the physical and chemical properties of the greater number of sapid substances, and are ignorant, notwithstanding, of the capital question, which property is it which makes a substance sapid, and qualifies it for the excitement of such or such a sensation? We know no single property common to all sapid matters which can be even remotely identified as the cause of their operation on the nerves of taste, and in which we can seek the source of their peculiar action.

To illustrate our inability in arriving by physical or chemical analysis at any decisive results on this subject, I shall cite one or two examples. Sugar may serve as the representative of sweet substances; we know that it is composed of twelve atoms of carbon, hydrogen, and oxygen, and how it is affected by all chemical agents; we know, also, its physical properties, such as solubility in equal proportions, requiring here no further discrimination. How is it now that this substance in solution, on contact with the mucous membrane of the tongue produces an excitement, whether chemical, thermal, electrical, or mechanical, which gives rise, by its action on the ends of the nerves, to that specific modification of the nervous current to which an appropriate sensation of taste instantly responds in the brain? It may well be supposed that the sugar does not take effect on the nerves hidden under the epithelium until imbibed by the latter, and is thus brought into proximity with their extremities; but even if it penetrated to immediate contact with them, in what respect is the solution of the question advanced? If we bring dissolved sugar into contact with the nerves of the muscles not a fibre stirs; a sufficient proof that sugar is in itself no "adequate" irritative of the nerves. What, then, qualifies the sugar for excitation of the nerves of taste? The obvious answer is, the presence of some special arrangement at the ends of these nerves (the taste-buds). But of what sort is it? (This arrangement has been explained in the above pages under the minute anatomy). How, and by what means, does the sugar operate upon it? How, through those means, is a nervous excitation produced? This is an enigma to be solved later by physiologists, as it offers at present so many obstacles.

The matter becomes still more inexplicable when we consider that, in the first place, sugar is not the only substance that tastes sweet, but that a multitude of other substances in no respect resembling it, either physically or chemically, produce the same sensation in the organs of taste; and, in the second place, that still other substances, which are most nearly related to sugar, having even the same composition, generate either no sensation at all or produce one of a wholly different character. What, for instance, have sugar and a combination of lead with acetic acid in common that both should taste sweet? What sulphate of magnesia and quinine that both should taste bitter? What distinguishes sugar from starch that the former should produce a sweet taste, the latter no taste at all? No answer but a general one can be given, and I should but freight my paper with useless verbiage did I give a list of all the substances having properties thus comparable.

As regards other senses, that of sight, for example, we are in a better position. True that even here we do not know altogether in what consists the operation of light on the extremities of the optic nerve, whence result their excitation and mediately by the sensation of light. But we do know, in the first place, that at those extremities there exists a wonderfully complicated apparatus * in which we can recognize the intermediary between light and nerve, through whose agency the former becomes an adequate assistant of the latter; and we know, in the second place, by what maintenance of the outward agent, light, the quality of the sensation is determined; it is practicable to state mathematically the degree of momentum adapted to each sensation. The undulatory movements of the luminous ether produce the excitation of the nerves of sight; the velocity of those movements qualifies the sensation so as to produce the colors which we see. A definite amount of this velocity is universally necessary for the production of the excitation; and we are able to specify the smallest number of oscillations in a second of time which cannot be diminished, the largest number which cannot be increased, without producing in either case an extinction of the effect of the waves of light on the visual nerves; we are able, also, to state with entire certainty the unalterable number of oscillations respectively pertaining to the perception to which we give such names as red, green, yellow or blue. So it is, also, with regard to the sense of hearing; what has just been said of the waves of light and their relations to the organs of vision and impressions of color may be transferred, with only verbal changes, to the waves of sound which produce the excitation of the auditory nerves.

However unknown to us the properties which give substances the power of producing sensations of taste, and the way in which they operate on the nerves of that sense, it is at least some compensation that we know to a certain extent the conditions under which a substance empirically recognized as an object of taste exerts its specific power, and the circumstances on which the intensity of the impression depends. First stands the fact that a substance can produce no such impression unless it reaches the seat of this sense in a fluid form; if of a solid nature,

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* For further details of this part of the minute anatomy I can refer you to the study of the silver-prepared sections of the birds and other mammals' retinas by the Golgi methods. Quain's Anatomy has many of them. For their physiological study reference must be made to works treating on that subject.

it must at least be first dissolved in the saliva. This condition results from the necessity, which was above provisionally assumed, that the sapid substance shall penetrate through the coat of epithelium to the mucous membrane where these taste buds appear disseminated. A solid body, even reduced to the finest powder, could not make its way through the closely compacted cells of which the covering of the tongue consists; but in solution it will be imbibed first by one and then by another stratum of these cells, until it finally reaches the underlying and sensitive surface. Now these successive imbibitions may be supposed to imply the lapse of a sensible interval of time, and yet experience teaches us that no interval can be appreciated between the moment of contact with the tongue and that of the ensuing sensation. Still, and in spite of this apparent contradiction, we must insist that no alternative remains for us but to accept this theory of a gradual transmission, seeing that it is supported by the admitted necessity of solution for producing sensation of taste, and no other supposition is possible. Moreover, we have no knowledge of the rapidity with which such transmission is accomplished, so that there is at least no proof that it may not be sufficiently great to render the interval in question quite inappreciable.

From what has been said it results that a body which is insoluble in water, and cannot therefore fulfill the above condition, is incapable of yielding a sensation of taste. It must not, however, be conversely reasoned that solubility in water is the actual quality which in itself fits a substance for the excitation of the gustatory nerves, etc. That this is not the case obviously follows from the fact that many substances readily soluble in water are tasteless—nay, that water itself is so. Were solubility as directly the condition of taste as the undulations of the luminous ether are the condition of light, a substance to be more sapid—that is, capable in smaller quantity of conveying a more intense sensation should be the more soluble; but this common experience refutes. Extremely soluble bodies sometimes convey a very faint taste; others, soluble only with difficulty an intense one. The degree of concentration of the solution requisite in general to produce a sensation of taste is very different with different substances; while some act in a very diluted state, others require a concentration nearly equivalent to saturation.

It has been stated that as regards odorous substances, a scale has been established by experiment showing the degree of impregnation of inhaled air, requisite in the case of different articles for the production of a sensation of smell; and in like manner it has been attempted experimentally to assign values to the different degrees of dilution which different objects of taste will bear without thereby loosing their property of gustatory excitation. The numbers thus found afford of course no absolutely exact valuation, but as a general consideration they furnish in this respect a sufficiently accurate comparison of the different substances for trial. I give here some of these results. It would perhaps be scarcely supposed that sugar, unfavorably in this scale of values—indeed, the most unfavorably of the compared substances as regards their relative capacity for dilution without loss of taste. Solutions of sugar which contain less than one part of sugar to 99 parts of water, no longer excite any perceptible taste of sweetness. Common salt bears a somewhat greater degree of dilution; the universal remedy for intermittent fever, quinine, remains perceptible under a greater degree; while sulphuric acid (oil of vitriol) takes rank before all; water, in which only one-ten-thousandth part of sulphuric acid is dissolved still tastes perceptibly sour. Acid substances, as many from experience are able to testify, gained either by cooking or otherwise, most readily impart their sapid qualities. On what conditions these surprising diversities depend it is beyond our power to explain.

With one and the same body, the intensity of the sensation of taste which it excites increases with the progressive concentration of the solution; a law which needs no other proof than daily experience. As regards the comparison of intensities, it will be well to remember what is thought as in the physiology on sensation in general, especially on those of touch; we have no measure by which can be estimated an impression of taste, so as to give it an exact numerical expression. If a test be made, one after the other, of a solution of sugar of different concentration, we cannot, if the difference is slight, decide which is the sweeter; we cannot say that one tastes half, twice, thrice, or tenfold as sweet as another with which it is compared. The intensity of the sensation depends not alone on the degree of concentration of the solution, but on several other circumstances admitting of explanation. It is easily understood that the strength of the sensation increases in proportion as the surface is larger on which the solution operates, and the time longer during which it is in contact with that surface. Just as of two bodies of equal weight, that seems to be heavier which presses on a larger surface of the skin, and thus gives excitation to a larger number of the nerves of touch, so the same solution of sugar will seem sweeter, if diffused over the whole area endowed with the same taste, than when merely a drop of it touches a circumscribed part of the mucous membrane with its sensitive taste organs or buds. Thus the intensity of the sensation increases with the sense of the nerve fibers simultaneously excited, because the single impressions seem, in conception at least, to be in some measure combined with one another. The more intense effect produced by prolonged contact of the object with the tongue may be inferred to result from the penetration of greater quantities of the substance to the nerve extremities of the mucous membrane; and for this, too, an analogy may be found in the operations of the sense of touch. A hot surface seems less hot on transient than prolonged contact with the skin, from the circumstance, in the first instance at least, that time is wanting to conduct the particles of caloric in sufficient quantity through the skin to the ends of the underlying nerves. One of the most essential conditions for increasing the intensity of a sensation of taste consists in the friction of the solution against the surface of the tongue, or of the latter with the solution against the hard palate. This resource comes into play habitually in the act of taking either solid or liquid food, but we avail ourselves of it more particularly in tasting, with a view to a more accurate judgment of the flavor of any substance. In this case we do not content ourselves with laying the object of which we would form a judgment upon the tongue and quietly awaiting the sensation, but bring it by an insipient movement of deglutition to the hinder part of the tongue, and press this in turn against the hard palate. It is at the moment of this contact, produced by a movement which is indispensable in the act of swallowing, that the most vivid sensation arises, as every one may convince himself who pays attention to what occurs during the process of taking food. For further confirmation of the fact, the following experiment may be practiced: Let the tongue be stretched out, with the mouth widely opened, so that the former can no where strike against the roof of the cavity, and a drop of dissolved sugar or vinegar be placed upon its surface, only a very weak sensation will ensue, with an instinctive effort to press the tongue against the palate, because we are unaccustomed, except by this means, to conduct the operation of tasting. The sensation will instantly become stronger, if, with the finger or a brush, we rub the solution upon the mucous surface of the tongue. Here also, we are as yet at a loss for any certain explanation; we can only remotely conjecture how the means spoken of serve to promote and intensify the excitation of the nerves of taste. It may be that the pressure and rubbing facilitate the intermixture of the solution with the salivary stratum which covers the membrane and its penetration among the different cells and those of the epithelium, or that the pressure applied to the extremities of the nerves renders these more sensitive and excitable. This latter conjecture, though received with favor by some, has, in the opinion of many others, little probability.

So long as we know nothing more of the positive means or the mode by which substances communicate sensations to the nerves of taste, all hypotheses on this subject must be air-built speculations.

How a mechanical force, a compression of the nerves alone, can heighten their excitation must be mere matter of conjection, and finds for its support no analogy in the action of other nerves. But since the physiologists have taught us more regarding the minute action of the taste-buds in direct connection with these nerves we must be content, to consign this, with the many other questions which we have been obliged to leave unanswered, to the category of riddles, for whose exact solution we can perhaps only look to a distant future.

From experience it is thought that the sense of taste not only possesses a very different degree of delicacy in different individuals, but that even in the same individual its delicacy is sometimes more, sometimes less, exquisite. The causes of this difference are not in all cases easily shown. It cannot be denied that a different degree of functional activity of the organs of taste may be innate; but to what parts of the organ the difference is attributable and what properties adapt this or that part to the reception of a keener impression, and its conversions into a more distinct sensation of taste, cannot in the present state of our knowledge be determined. It is but seldom that we observe in the taste, the tongue, those gross and obvious defects which might lead us beforehand to infer an obtuseness of the sense, for instance, as a thick and corneous condition of the epithelium, perceptible rugosities, etc. In most cases of difference of fineness of taste in different persons, the cause is to be sought not so much in congenital or casual deviations of the apparatus, as in diversities of cultivation, of education of the sense. It is a remarkable fact that, through judicious practice directed to that end, the operations of all our senses may be improved to an extraordinary extent, and the way in which this refinement is brought about by diligent practice presents one of the most interesting questions of physiology. Is the mechanism of the organs of sense improved by use, or is it only that with an unchanged condition of the original mechanism, more facility is acquired in understanding their operations? In other words, are material changes produced by use in the apparatus of the senses, or is it the immaterial principle of our nature which derives advantage from that use? Probably both suppositions are, in a certain degree, true. It would be difficult to adduce direct proof of the improvement of the proper apparatus of the senses, but analogies, drawn from other physiological apparatus, give countenance of its possibility. A muscle becomes so changed through strenuous use, that not only are its powers of performance increased, but a higher activity of nutrition supervenes and the number of its fibres, on which depends its strength, is also increased. The blood secretes more material applicable to the formation of such fibres in employed than in unemployed muscles; a muscle, indeed, precluded from all activity, ceases to receive nourishment and perishes through inanition.

Perhaps also the quality of the nutriment supplied is improved by the exercise of the muscles, so that, without actual increase of the fibres, those already existing may be qualified for greater manifestation of power. Daily experience affords proof of the above. It needs but to compare the firm and prominent muscle in the arm of a smith with the flaccid, scarcely-developed muscle in that of a recluse, the muscular leg of a chamois hunter with that of a sedentary artisan. But there is often to be seen also in individuals of spare habit, in whom there is outwardly no striking muscular development, a surprising strength and energy of the muscles, which would indicate the enhanced nutrition of those organs arising from continued use. The muscles, then, being susceptible of this improvement by use, what should forbid our inferring that the working capacity of the apparatus of the senses may, in like manner, be nourished to a higher degree of perfection by habitual exercise? But whether the whole result should be referred to habitual use of exercise, is extremely doubtful; for those, at least, to whom soul and nerve apparatus are not identical. While it may well be believed that an organ of sense may be improved to such a point, by material treatment, as to be more sensitive to relate impressions, it would seem impossible to explain by a simply improved mechanism the vastly increased delicacy of discrimination acquired by practice in distinguishing different impressions or different degrees of the same quality of impressions. If we consider the soul as an immaterial principle, which is indeed consigned to the material organs for all its intercourse with the outward world, and yet is so far independent as to be capable of a different cultivation through the employment of the same unchanged organs, we may also assume that it first gradually learns to interpret and discriminate the permanent processes in the sensitive apparatus, and will of course make the greater progress therein, the greater its practice. I am here venturing, however, into a province where no ordinary sagacity is requisite to find a sure route, and to pursue it without stumbling upon prejudices or deviating into by-paths. I return, therefore, to the immediate subject before me.

Examples of the degree of delicacy to which the sense of taste may be trained by use need not detain us. Everyone may find them among his acquaintances, and few probably are without a knowledge of some connoisseur in wines, who, from his taste of the precious juice, will undertake to pronounce the year and vineyard which were privileged with its production. Though in such cases there may be often pretense or self-deception, yet it is certain that the sense of smell and even that of touch, afford for these trials a degree of succor to the sense of taste; even common parlance recognizes the "bloom," the "bouquet," or again the "harshness," of certain objects submitted; still there remains for the share of the sense in gustation enough to secure respect for its educational capacity. It is not, however, in different individuals only that striking differences in the delicacy of the sense of taste occur; they present themselves from time to time in one and the same individual, as the experience of everyone will testify. Thus it happens, not unfrequently, that a severe acute catarrh migrates from the pituitary tunic of the nose to the mucous membrane of the mouth, and occupies the latter to such an extent that in a scarcely exaggerated sense all taste may be said to be lost. In this uncomfortable state, food excites only the impression of touch, often improperly confounded with what is called a "clammy taste;" though in truth no genuine sensation of taste exists; with the exception perhaps of that generated by intensely sour or bitter objects, which still is scarcely more than a counterfeit of the sensation excited by the same objects in a healthy condition of the organs. In the same way loss or deprivation of taste is a very regular concomitant of many disorders of the stomach and bowels, manifested in some cases by hebetation of the organs, in others by perverted sensations, as when, for instance, all substances leave a bitter after-taste. We may remark, finally, that very intense impressions of taste blunt the susceptibility for succeeding and weaker impressions of the same quality; whence, after partaking of a sour salad, the wine bibber may smack his lips over the sourest products from the vineyards of Grinneberg; while, on the other hand, the sensibility to impressions of another quality seems to be exalted, so that after the enjoyment of a sweet confection, the least acidity causes the best wine to taste like vinegar. For these facts we can propose any superficial and fragmentary explanations. As regard the bodily ailments above spoken of, it is safe to make of the more or less thickened and furred envelop of the tongue a scape-goat on which we may cast, in the first instance, the blame of the defective or vitiated sensibility to objects of taste. We may suppose, moreover, that in catarrh exudations from the mucous membrane clog its tissues, and thus impair the irritability of the extremities of the nerves, or in some way embarrass the yet unexplained action of sapid substances on those nerves.. But such an explanation or supposition does not carry us far. What really gives rise to the incidental perversion of the sensations in gustation can scarcely be the subject of even plausible conjecture, so long as we know not the entire nature of that excitation which different substances produce in the nerves, so long as we are ignorant how a sweet or bitter taste comes to be generated. That after a sour substance a sweet one tastes doubly sweet we may be disposed to explain by the effect of contrast. This explanation I shall not in general contest, but most earnestly protest against the commonly-received notion that a sweet and a sour taste are opposites of one another. Between two sensations of different quality, whether they belong to the same or different spheres of sense, there exists no *tertium comparationis*, and so nothing which will authorize us to regard them as opposites. It is just as unreasonable to consider a sour taste the opposite of a sweet one, as to attribute opposition to the sensation of a red and green color, or a shrill and a deep tone, as if the one stood in diametric relation to the other, as a north to south pole. Could the two sensations be even assigned to external causes essentially antithetical, we should not be justified in transferring this character to the sensations themselves. These are incapable of all description; they admit not of a measurement or division, and can as little be brought into the relationship of opposition as of numerical value.

I must not pass over this subject without taking at least a brief cognizance of the *aftertaste* or *tang*, although in truth its nature and causes are so obscure as those of the proper sensation of taste. This aftertaste exists in a two-fold manner. With some substances, the original sensation which they create continues of the same unchanged quality for a long time after they have been swallowed and been displaced on the tongue by other substances. With others, again, after the retreat of the sensation originally excited, another supervenes of quite different quality. Thus there are bitter substances whose taste is not to be got rid of, as it is commonly expressed; and, on the other hand, sweet substances which create a bitter aftertaste. When this aftertaste is of like quality with the original sensation, it is not easy to decide whether it is of a purely objective nature, or in part at least, subjective; that is to say, whether the action of the substance which generates the primary sensation itself persists as long as the aftertaste endures, or whether, for some reason, the excitation of the nerves, or the activity of that central apparatus which operates directly on the sensorium and determines the nature of the sensation, continues even after the disappearance of the substance from the nerve extremities. Of the last there is no existing proof; the objective nature of the aftertaste is, on the other hand, readily conceivable and capable of explanation in different ways. It is very possible that certain substances, having once penetrated into the mucous membrane, cling more pertinaciously than others to its structural tissues, without being removed, by absorption or chemical decomposition, from the vicinity of the nerve extremities, on which therefore, they continue to operate. The probabilities in favor of this origin of the aftertaste are greater, the smaller the quantities of the substance necessary to produce the sensation. In the second place, it may well be supposed that there are substances capable of affecting the nerves of taste through the blood; indeed, it is certain that many "subjective" sensations of taste, which, from time to time present themselves without any external cause, are in reality objective in the sense that substances conveyed from the bowels into the blood have been in such cases carried by the latter to the mucous membrane of the tongue, and thus reach the sensitive extremities of the nerves of taste. The proof of this lies in the often-observed fact that, when intensely bitter substances have been swallowed in the shape of pills so well enveloped that they pass over the tongue without exciting the characteristic taste, that taste will nevertheless arise in the mouth after a certain time. As regards the second sort of aftertaste, where its quality differs from that of the primary taste, we are again left in doubt how far it is objective, how far subjective. It is very possible that certain objects of taste suffer, within the mucous tissues, a rapid change or chemical decomposition, and in this altered condition affect the nerves of taste in a different manner than at first. But it is also conceivable that the different aftertaste results from a spontaneous reaction of the nerve apparatus; a supposition, however, which admits neither of proof nor closer examination.

In like manner with the impressions of touch and smell, those of taste are regularly and unavoidably associated with *ideas* which mankind in general are apt erroneously to identify with the impressions themselves. With the impressions of taste is immediately connected the idea of an external *object* as cause of the sensation, and with so little consciousness of the distinction between the sensation of the idea that we believe ourselves to be directly tasting the object as such, and impute to it qualities of the sensation as a property. Thus every one speaks of sweet and sour substances as if the sweetness or sourness were a property of the substance itself, just as we speak of red or blue objects in the meaning that the color is a property of the object. Most probably we arrive at the idea of an external object as cause of the sensation of taste—not through this sensation itself, but through the accompanying impressions of touch, which simultaneously enable us to form the idea of the *place* at which the gustatory impression takes place. With sensations of taste are also connected ideas of pleasantness, unpleasantness, nauseousness, etc., which are in like manner erroneously confounded with the sensations. An impression on the organs of sense cannot in itself be pleasant or unpleasant. Further, it is often not the immediate gustatory impression which calls up the idea, for this idea may take its shape from mental associations previously established, or in part from simultaneous sensations of taste or smell.

The above is what I have felt authorized, by the present state of our knowledge respecting the physiology of sense of taste to impart in this small memoir. I might here desist, but it is perhaps, proper to offer a few remarks, in regard to the practical uses to which the sense of taste is adapted, even if the first considerations which present themselves, as was the case when I presented in my "Memoir on the Odoriferous Sense," and therein treated of the sense of smell, may seem calculated to disparage its value as an endorsement of the human or animal economy. In this point of view, it is a matter of indifference whether we ask, of what advantage is the sense of taste, or what was the design in endowing the organism with that sense? The answer to both forms of inquiry rests essentially on the same principles. It is customary to regard the sense in question as a *sentinel*, so to speak, of the digestion, stationed at the portal of the alimentary passages to challenge the various articles which present themselves for admission, and to enable us to discriminate the hurtful from the wholesome. Nor is this view incorrect; only it is necessary, first, to assign the limits within which this sentinel may be trusted; and, secondly, to inquire how far its function is an independent one. It would certainly be disastrous for nutrition and health if we committed ourselves blindly to such a monitor as this; death from inanition or poison must lie everywhere in wait for us if we resigned ourselves without reserve to its indications. The sense of taste is itself indeed no sentinel; the quality of a sensation of taste can, of itself, in nowise disclose to us whether a substance is wholesome or unwholesome; seeing that there are many tasteless substances which are the former, and not a few of the latter which are well-flavored. The sense of taste is in this respect only like the indications furnished by a clock: we must understand the signification of the numbers of the dial-plate and the movement of the hands if we would derive from the clock information as to time; so we must learn, by circuitous experiences, to interpret the different qualities of the sensations of taste if we would avail ourselves of them in the diagnosis of food and poison.

It is difficult to say how we are determined to the choice of our first nourishment; an impulse wholly enigmatical urges the new-born child to its mother's breast; nor must we imagine that we make any progress towards an explanation when we call this impulse an instinct—that is only a word by which we supply our want of a clear idea. But whatever the nature of the impulse, a sensation of peculiar quality is imparted by the milk of which we are thus led to partake, and this quality, impressed upon the memory, serves us ever after for the recognition of that particular nutriment. And so with all other means of nutrition, whether instinct or experience may have taught us to recognize them as such: the sensations excited by them impress themselves upon us, and with each an idea of the nature of the corresponding object. Thus we learn by the sensation to distinguish the objects, but in nowise do we learn from the sensations the significance of those objects as regards life and death. When we partake of food, the previously instructed sense informs us of the kind and quantity of its sapid ingredients; it is upon our own experience or that of others that we found our judgment of their nutritious or noxious character. Unfortunately for the epicure, the antagonist ideas of pleasant and distasteful can in no manner be brought to conform absolutely with the two categories of food and poison; many a culinary preparation of simplest flavor is an excellent nutriment; many a delicacy which tickles the palate to an exquisite degree is either innutritious or positively hurtful. Finally, it is to be remembered that among the safest viands or the subtlest poisons there are some which are quite insipid, to which, therefore, the vigilance of the sentinel palate can by no possibility extend. These patent truths it is unnecessary to re-enforce by multiplied examples. What would it avail, indeed, to prove that a plain milk porridge as much surpasses a truffle-pastry in nutritious properties as it falls behind it in savoriness? We should make thereby a few proselytes as did the barbarous reformer who once set a whole community in ferment with the words, "Beer is poison."

OTO-MASSAGE.

BY CHEVALIER JACKSON, M.D., PITTSBURGH, PA.

Oto-massage for convenience of consideration may be divided into three general classes of procedures: first, exercise of the *sense* of hearing by means of sounds produced with apparatus or by the voice; second, direct mechanical massage by means of probes or similar instruments brought in contact with the membrana tympani; and, third, massage by means of a column of confined air in contact with the membrana tympani.

The first of these, exercise of the *sense* of hearing, including the methods of Itard and Urbantschitsch, and the various noise producing appliances, have yielded little, if any, temporary, and absolutely no permanent, benefit.

The second class of procedures, by means of direct pressure with probes, etc., operated by hand or mechanism, as advocated by Lucae and others, are so extremely painful, and involve such risk of injury, that it does not seem wise to subject the patient to them for the small amount of benefit obtained by their advocates. Many patients would rather be deaf than suffer the pain. These procedures are also open to the objection that they force the membrana tympani inward, thus favoring retraction, jamming of the stapes, and increased labyrinthine pressure. They also cause extreme vascular turgescence, which cannot be otherwise than aggravating to inflammation, purulent or catarrhal, as the case may be.

The third class of procedures, by means of a column of confined air, is the most generally used and has yielded the best results. This pneumatic massage is practiced by the following methods:

By negative pressure, owing to absorption of air after occlusion of the external auditory meatus with a plug of cotton impregnated with cocoa butter.

By manipulation of the fingers of the patient, either inserted in the meatus or applied to the tragus—methods suggested by Randall and Homell respectively.

By Siegel's speculum operated by mouth, syringe or air bag.

By rubber tube and ear tip operated by mouth, syringe or air bag.

By the Delstanche's masseur.

By a well-constructed mechanical pneumatic masseur acting on the piston principle.

The negative pressure method of Politzer, with a cocoa butter plug, did not prove feasible in the writer's hands.

Massage by the patient with his finger is open to two objections: its action is one of compression, and it is apt to be too frequently applied, resulting in flabbiness and irritation.

The Siegel speculum and the rubber tube operated by the mouth may be too violently applied, but, done properly, it is useful, if care is taken not to blow or compress the column, but first exhaust and then release. The use of the mouth is not very delicate, to say the least, and in purulent cases is out of the question. Operated by the air bag no harm, such as has happened with the syringe, is likely to occur. But none of the procedures have the advantages of a correctly constructed, adjustable mechanical masseur.

The Delstanche, in the writer's opinion, is altogether too violent an instrument as ordinarily used. If applied with vigor, as it usually is, it results in reactionary congestion, which is harmful. If very carefully used, always exhausting, never compressing at the first stroke, it will do no harm, and will be beneficial. But it does not yield as good results as are obtainable with a mechanically-operated adjustable masseur.

A properly-designed mechanical pneumatic masseur is safe, painless and beneficial in a proportion of cases. In the writer's opinion the essentials of a proper design are these: Controllability of the energy and frequency of the stroke; capability of always being started on the exhaust stroke; arrangement of valves so that rarefaction recurs at every stroke and compression is an impossibility. In the one used by the writer there is a ball valve, similar to those on oil pumps. It consists essentially of a bored valve seat, on which fits a ground ball, and over which is a guard regulating the extent of play. Of course there should only be one valve; two would result in a continuous exhausting without releasing. The energy of action is regulated by the stroke of the piston, this being accomplished by placing the crank-pin in one or another of the different holes in the crank disk. These holes vary in distance of their location from the axis. The frequency of the exhaustive impulses is regulated by the speed at which the motor is run. Starting on the exhausting stroke is accomplished by placing the piston at the lowest point of its stroke. High speed in a masseur is unnecessary, and indeed useless. Beyond 960 atmospheric impulses per minute, the separate character is lost and continuous sound is produced. Beyond 150, with a cylinder of proper size, they lose their distinct exhausting and releasing character, and begin to run together, owing to the elasticity of the air. No wonder a few otologists have failed to get results with pneumatic massage, when investigation showed that they were running a masseur at 3,000 impulses per minute. The impulses ran together, so that no massage was going on at all, unless there was a sound-massage, which is nearly, if not quite, useless. High speed, compression, and violence are responsible for failure to get good results in a fair proportion of all the cases in which it is used.

Now, as to the exact value of oto-massage: there is rigidity of the ossicular chain; *ergo*, passive motion should cure. This seems so logical that the tendency is to expect passive motion to perform miracles in the way of immediate and permanent cure of deafness. A better plan is to set aside all theory and to test the remedy carefully to ascertain its exact value. Four years of careful observation with this object in view has led the writer to the following conclusions:

Benefit has been obtained in about 65 per cent. of the cases of chronic catarrhal otitis media, both hypertrophic and hyperplastic, and in about 50 per cent. of cases of chronic purulent otitis media. The word benefit is meant to include lessening or cure of tinnitus and vertigo, and increase of hearing distance. Purulent and catarrhal inflammatory conditions were carefully treated with means deemed appropriate, as were also naso-pharyngeal troubles where they existed. Means other than pneumatic massage were used conjunctively in cases where they had not already been used with failure to benefit; but the percentage of benefit is very much higher than these means ever yielded alone, and in a fair proportion (about 33 per cent.) where they had failed, pneumatic massage alone yielded very decided benefit.

In a general way it may be stated that pneumatic massage is, without doubt, useless in osseous sclerosis of the stapes, and that it will prove useless in a certain percentage of cases in which it may seem to be indicated. Therefore a certain percentage of failures must be looked for with this, as well as with every other remedy known. It is not a specific. But it offers good chances of benefit in all cases due to defect of the sound-conducting apparatus, whether the result of purulent or catarrhal otitis media, acute or chronic, hypertrophic or hyperplastic. In certain cases it relieves tinnitus and vertigo, and it increases hearing distance. It frequently arrests the onward march of a progressive difficulty of hearing, which arrest is of great service to the patient, even if an absolute cure is not established. It is one of the most efficient means at our disposal for combatting stapedial and other adhesions and jamming inward of the stapes. It is easy to apply; is harmless, if not beneficial; and is not objected to by the patient, no matter how young or timid. It can be used in conjunction with Politzerization, naso-pharyngeal treatment, and other means of combating disease in these cases, and if it fail, operative procedures are as available as before. In convalescence after acute catarrhal and purulent otitis media the benefit in hastening and assisting restoration of hearing distance is unmistakable.

The only objections that have been raised to pneumatic massage have been on purely theoretical grounds. It is asked: "How can conditions that produce boiler-maker's deafness improve the hearing?" To this the reply is that they cannot. The conditions that produce boiler-maker's deafness are, in the main, painfully intense sounds. Pneumatic massage properly applied is a to-and-fro motion of the air in the meatus too infrequent to produce sound, and never painful in any case. Painfully intense sounds drive the membrana tympani inward, often with sufficient force to rupture it, and in any case to irritate both the sound-transmitting and sound-perceiving apparatus and central auditory tract. Proper massage is an alternate drawing outward, followed by a releasing of the membrana tympani with a movement of the appended ossicular chain.

It is also asked: "How can an increase of circulation benefit a chronic catarrhal otitis media?" To this must be answered that to increase the circulation, as is the usual result with the Delstanche, is to do more harm than good. Massage must be gentle.

Can pneumatic massage do harm? If too frequently or too violently applied it can cause flabbiness of the membrana tympani and increase catarrhal inflammation. The writer has had letters of inquiry from physicians similar to this: "Have you ever ruptured the drum membrane, or had inflammatory ear trouble or hæmorrhage or syncope follow an application?" Methods violent enough to produce such results should be classed as orthopædic surgery, not as pneumatic massage. Unquestionably such methods are harmful, though they may seem mild compared to the removal of the membrana tympani and ossicles. Mutilated drum membranes and great congestion are by no means an infrequent result of the too violent use of the Delstanche, but with a pneumatic masseur properly constructed they are impossible. One patient, in relating his experience with the Delstanche in the hands of a prominent otologist, said: "I thought he would drive my brains out the other ear." This hints at the two great possibilities of harm and obstacles to benefit, namely: violence and compression. To attempt violent massage in cases of osseous sclerosis of the stapes is a common error, resulting in more or less injury to the membrana tympani, without lessening the rigidity of the stapes.

The essentials to be observed in the use of pneumatic massage, in the writer's opinion, are these: First, *gentleness*. Thumping and pounding the membrana tympani, and treating it, though pneumatically, with a degree of energy comparable to that of an orthopædic surgeon dealing with a fibrous ankylosis of the knee-joint, will do harm, and is very likely to result in injury. This may be in the form of a flabbiness or rupture of the drum membrane, fracture of an ossicle, jamming inward of the stapes, or worsement of the catarrhal condition owing to increased vasculatity. The second essential is *slowness.* To get the best effect the masseur should not make more than 200 exhausts in a minute, and 150 are enough. The third essential is to always *start on the exhaust stroke.* The action then will be to first draw the membrana tympani outward, and then release it. For this purpose it is well, at every sitting, to make three applications of about 15 seconds each, starting each time on the exhaust stroke. This, with the ball-valve arrangement, will insure against compression. Cases in which there is increased labyrinthian pressure are unfavorably influenced if there is any compression of air in the external auditory meatus. Such compression is precisely the condition of the caisson. Exhausting the air on the first motion counteracts retraction and jamming inwards of the stapes. The fourth essential is *short sittings*, and they should not be oftener than thrice weekly. The fifth essential is that the massage, by whatever means applied, shall *not be put in the hands of the patient*, who is certain to overdo it. The foregoing essentials are responsible, in the writer's opinion, for the good resuls that he and others have had. They may seem arbitrarily expressed, but they are backed by careful work and observation. This is an operative age. Twenty years hence will see the limitation of operation work to cases where every other means has failed to relieve; and, in conclusion, the writer implores otologists not to subject patients to serious operative measures until after pneumatic massage has been given a thorough trial.

67 Sixth Avenue.

ON THE TRANSFORMATION OF BENIGN LARYNGEAL GROWTHS INTO MALIGNANT NEOPLASMS.

BY NORVAL H. PIERCE.

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Rhinologist to the Michael Reese Hospital; Surgeon to the Dispensary of the
Michael Reese Hospital, in the Department for Diseases of the Nose,
Throat and Ear; Laryngologist to the Passavant Memorial (Emergency) Hospital, Chicago.

It would seem that Felix Semon had annihilated for all time, by his heroic collective investigation of this subject (*Centralblatt für Laryngologie*, 1888) the belief that benign neoplasms are prone to undergo malignant transformation from operative interference. The ghost, however, does not seem to have been laid, for the February number of the *Centralblatt für Laryngologie*, E. von Nevril, opens the subject again.

Lennox Browne, the high priest of the doctrine, in the article on Malignant Tumors of the Larynx in Burnett's *System of Diseases of the Nose, Throat and Ear*, after naming some eminent authorities who lean towards the possibility of such a conversion taking place, declares: "To this list of more or less willing adherents to the author's conclusions, must now be added the names of Felix Semon and David Newman."

So great was my astonishment at this declaration, that in a letter to Semon I drew his attention to this article. I herewith publish a portion of his reply in order to refute the assertion which, not only places an eminent and earnest worker in an absolutely false position, but may be the means of disseminating among the profession a wrongful conception of a most important subject.

Semon says: "I beg to give the most unqualified denial to the statement made by Mr. Lennox Browne, in Burnett's *System of Diseases of the Ear, Nose and Throat*, to which you refer. Mr. Browne's whole historical argumentation concerning the alleged liability of benign laryngeal growths to undergo malignant transformation after intra-laryngeal operations, is one continued series of misleading statements. On comparing the quotations from the late Sir Morrell McKenzie's alleged examples of such transformations with the originals and with Sir Morrell's own statements in his *Manual of Diseases of the*

Nose and Throat, vol. I, p. 317, you will find that Mr. Browne reports three cases of so-called conversion from McKenzie's practice, whilst that author himself emphatically states that he has seen only one.

"Concerning Newman's case, also reported by Mr. Browne, you will find on comparing Mr. Browne's statements with the original description given in the *British Medical Journal*, that Mr. Browne has in the most essential sentence of a quotation, which he states (l. c.) represents the exact words of the author, simply substituted the word 'demonstrated' for the expression 'believed,' used in the original, and has thereby totally altered the author's sense.

"In Mr. Shattock's and my own case, which he claims to be the strongest case of all (viz.: of conversion), Mr. Browne has suppressed the concluding sentence of the annotation in the *Centralblatt für Laryngologie*, from which he quotes (vol. VIII., p. 318) and in which he expressly stated that this case can in no sense be looked upon as an example of transformation of a benign growth into a malignant one.

"Mr. Shattock and I have brought the sequel of our case on December 19th last before the Pathological Society of London, and have in conclusion of our paper strongly protested against Mr. Browne's misrepresentations. From the *British Journal* of December 23, 1893, pp. 1376 and 1377, you will see that all the speakers in the discussion, with the exception of Mr. Browne himself, have unhesitatingly adopted Mr. Shattock's and my own view, and that in conclusion Mr. Browne has withdrawn his statements as to our case being an instance of transformation.

"Your letter proves to me the necessity of exposing before the American medical profession in an American medical journal Mr. Browne's misstatements, and this I will now do without delay. Meanwhile I trust I have answered your question fully, and you are at liberty to utilize this letter in your forthcoming essay on carcinoma of the larynx."

It would seem to be a fruitless controversy to enter upon, this of transformation of benign into malignant neoplasms. And yet, from a practical and scientific standpoint, the subject in its relation to the larynx is of such special importance that we cannot refrain from touching upon it in this paper.

We claim that any theory which accounts for the origin and course of benign neoplasms cannot be accepted in the same sense as regards malignant neoplasms. The causes of malignant and benign tumors must be essentially different, because the beginning, course, end and nature of each are essentially different.

Our first quarrel is with the terms which are used by the supporters of this transformation theory. They do not use the term "transform," as it is used in speaking of "grubs transforming to beetles," but as did the alchemists in speaking of the "transmutations of metals." We know that carcinoma may grow upon a syphilitic base, just as we have tuberculosis devolop upon the same soil, but we never think of either of these as instances of one process being "transformed" into another. Such a position is opposed to all recent pathological thought. Here carcinoma is regarded as autonomous, independent of other organisms (*autos*, self; *nemos*, distribution). From this standpoint the proposition as presented by thc supporters of the "transformation" theory is unthinkable.

It is quite easy to comprehend the causes which have led to this error.

1. A highly autonomous epithelial proliferation which distinguishes carcinoma, may develop within the epithelial elements of an organoid tumor. This may occur at a date more or less removed from the inception of the organoid tumor, *i. e.*, soon after or simultaneously with the benign tumor, or years after, as in the case pictured by Thoma in his "Pathology," where a soft medullary carcinoma within a few weeks developed in an adeno-fribroma of the mamma, which had presumably existed for years. But as this occurs in parts, *i. e.*, the mamma, inaccessible to mechanical or chemical irritation, we must conclude that irritation is not a factor *sine qua non* in their development.

2. "A carcinoma may develop primarily as cellular tumor without passing through any organoid stage," thus at the beginning of many carcinomata of the skin, rectum, stomach, the tubules of the glands merely increase in size before they go on to form cancer alveoli. The hyperplastic glandular growth is only the transitory stage of development, which soon gives place to the autonomous cancer growth. (Thoma).

3. *Papillary Carcinoma.*—This form of carcinoma resembles the papilloma in so far as its surface shows papillary elevations, with a stem of vascular connective tissue and an epithelial investment. The difference, microscopically, between the two is that in the papillary carcinoma the epithelial growth passes deeply into the underlying tissues, and extends branching epithelial processes within them, which in structure and arrangement correspond to the medular processes of the adeno-carcinoma.

Now, we can readily believe that unless the *base* of such a tumor when occurring in the larynx is studied, we may be led into error by even our microscopical examination.

Linked to these pathological factors are others dependent on the situation of the tumor, which have been active in the maintenance of the erroneous conception. The interior of the larynx *per via naturalis* is relatively inaccessible. Owing to this, we are able in the majority of cases, especially of large tumors, to procure only small pieces for microscopic examination. Again, intra-laryngeal operating is not always simple, even to the most dexterous operator. So much of success depends on circumstances which are apart from the operator: the intelligence and self-control of the patient, the shape of the larynx, the situation of the tumor within the larynx, etc.

To recapitulate then:

1st. It is probable that we may have a carcinomatous focus develop in a benign neoplasm, occurring in any part of the body, but there is no proof that this occurs with unusual frequency in the larynx, nor are we to regard this in any case as an instance of transformation.

2nd. In certain carcinomata, their first appearance is characterized by a hyperplastic glandular growth, and if a carcinoma at this transitory stage be subjected to microscopic examination the results could only be of negative value. And here let me make a quotation from Gerhardt's late work on "Kehlkopfgeschwuelste:" "Probeexcision und microscopischer Befund sind in dieser Frage mit dem Stichworte pathognomonisch oder typisch in Verbindung gebracht worden, als ob man gleichmässiges Durchdenken und Abwägen aller Krankheitzeichen durch schablonenmässige Fabrikarbeit mit Hilfe Anderer ersetzen könnte."

3rd. The microscopic examination of the surface of the tumors in a relatively large number of cases will lead us to erroneous conclusions, because it is only in the body or even base of such tumors that the typical formation exists. These facts taken in conjunction with the peculiar situation of the growth has led, in our opinion, to the erroneous belief that benign laryngeal neoplasms are prone to malignant change.

CLINICAL REPORTS.

THROMBOSIS OF THE LATERAL SINUS.

BY N. L. WILSON, M.D., ELIZABETH, N. J.
Attending Rhinologist and Laryngologist to the Elizabeth General Hospital and Dispensary;
Vice-President Clinical Society of same, etc., etc.

I desire to report a case of thrombosis of the lateral sinus, not because of its infrequency, but with the hope that it may shed a little more light on this class of cases, and encourage others to operate early.

Robbie, age 15; gave history of having a suppurating otitis media for three years. On labor day he went in swimming in a fresh water lake. The next day he complained of lassitude and some pain in ear, which continued to grow worse for a week, at the end of which time he called in a physician, who promptly diagnosed mastoiditis; but, owing to the unreasonableness of the parents, was not able to operate. He was admitted to my service in the Elizabeth General Hospital September 21st, with all the signs and symptoms of mastoiditis, although he was not complaining of as much pain as he had done previously. I opened the mastoid, and, after chiseling away the outer surface of the bone, came upon a small quantity of pus. The antrum was filled up with granulations, which were removed, and a stream of sterilized water was freely passed through it, escaping from the external canal. We had some difficulty in keeping it open, as masses of granulation tissue would form in the antrum and occlude it. This, however, was finally overcome; but the patient's temperature would suddenly rise to 106, and then as suddenly decline. He had no distinct chill, and his pulse was of good volume and about 130 per minute. These symptoms usually came on at night or early morning, and I found myself confronted with what my colleague and myself took to be a thrombus of the lateral sinus. I determined to open the sinus, and accordingly removed a button of bone over the sinus, and as I did so there welled up a quantity of pus from between the dura and the skull. The sinus had a slight pulsation, but a hypodermic needle introduced into it brought forth only a few drops of blood. I was satisfied with the pus already found, and endeavored to drain it. This operation did not relieve the boy, and it was apparent that he was in a very critical condition, and by the advice of some of the gentlemen present, I again had the boy etherized, and removed a button of bone from the posterior fossa, hoping to drain the epidural abscess. No pus was found in this situation, and this time I opened the sinus, and then found the thrombus, which was lodged a little above the margin of my opening. The sinus did not bleed until I disturbed the thrombus, when it bled freely. It was packed with iodoform gauze, and gave no further trouble. Two days after the operation he began to have a slight paralysis of arm and leg of same side, with slight difficulty in swallowing.

This increased until death, which occurred on the 4th day after the last operation. The diseased ear was the right one, and paralysis coming on the right side, and the patient having no vomiting at any time, somewhat mystified me; but at the autopsy there was found an abscess in the left tempero-sphenoidal lobe, about the size of a peach pit. A very large thrombus was found in the sinus, and the mastoid was carious, although there was no opening into the cranial cavity. If it ever falls to my lot to see a similar case, I will not hesitate to open the sinus and clean it out.

EPILEPSY RELIEVED BY INTRA-NASAL TREATMENT.*

BY T. PASSMORE BERENS, M.D., NEW YORK CITY.

Mr. F., age 39; married; consulted me January 6th, 1895, for subacute catarrhal otitis. His family history was good, but he had suffered since infancy with epilepsy. The attacks came on during the night; sometimes four or five during a single night. Again he would have only four or five in a month. At times the attacks were slight; but as a rule they were accompanied by complete unconsciousness, biting of the tongue, etc., etc., and lasted from a half hour to two hours. Having consulted me for his ear, I paid no attention to the epilepsy. In his nose was a not very large septal ecchondroma and exostosis in contact with the anterior end of the right inferior turbinate, and posteriorly with the middle turbinate. This septal growth I removed, as it interfered with the treatment of his ears. This was on February 10th, 1895. After this he did not have a convulsion until August 2nd, 1895, when he took a severe cold in the head. I did not see him then, but he told me later that at the time his right nostril was occluded, and he had considerable supra-orbital neuralgia on that side. From August 2nd he went until November 9th, when he had a mild attack, due, he claims, to another cold. I saw him shortly after this, and found a much-congested lower turbinate on the right side, which I cauterized November 9th, 1895. To date, November 25th, 1896. he has not had an attack.

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* Read before the Section on Laryngology and Rhinology, New York Academy of Medicine, Nov. 25, 1896.

The patient cannot remember ever having had any premonitory symptoms of the attacks. No suggestion was made that the operation on his nose might benefit his seizures, and no constitutional treatment was taken by him.

4 E. Forty-third Street.

CLINICAL NOTES: NASAL AND AURAL.

BY F. B. EATON, M.D., SAN JOSE, CAL.

A Tooth in the External Auditory Canal.—Some weeks ago, as I was leaving the building in which is my office, I was met at the door by a laboring man leading by the hand a small boy about seven years of age. The latter was staggering, and now and then vomiting. The father handed me a note from a city physician stating that he and a confrère had tried to remove a tooth which the boy had put into his left auditory canal, but without success, and referred the case to me as they had not the necessary instruments. The father stated that no syringe had been used, only instruments.

On examination there was a little blood trickling from the meatus, and some clotted blood in the canal. I syringed the canal to remove the blood, and hoping to so remove the tooth, but without success, as even gentle syringing caused intense nausea and vertigo. The tooth was visible, lying on the floor of the canal and against the membrane, its long axis transverse. Probing showed it to be impacted, the sharp alveolar-end penetrating the posterior wall. Owing to its smooth and rounded surface, forceps were useless, so I made a curette of a soft metal probe by turning over its end so as to give a radius suitable to the size of the tooth and crooking it like a shepherd's crook. Then with a Gross' foreign-body hook I, with some difficulty, started the tooth outward as far as the middle of the canal, and managed then to pass the larger, extemporized hook over and around it, and thus extracted what proved to be a canine tooth.

Though many and various are the foreign bodies found in children's ears, I have related the above mainly to point out once more a hoary and venerable moral for the general practitioner. Again and again have aural surgeons repeated the caution: *First use the syringe whenever the foreign body is one that does not absorb water.* The use of forceps in the vain endeavor to remove round, smooth bodies has also been deprecated, and the necessity of good forehead-mirror illumination emphasized. In few surgical cases is the expectant treatment on the part of inexperienced surgeons so *apropos* as in these; and to judge by the results of ill-advised interference, the question of a certain famous judge might often appropriately be put to unwise and eager operators: "Could not you have left it alone?"

A Method of Introducing Melted Vaseline into the Naso-Pharynx. The spraying of melted vaseline into the naso-pharynx is often difficult, and sometimes even impossible in adults, and more often so in the case of small children. The following method has succeeded well in my hands, especially with very small children.

An ordinary eye pipette is nicked with a file and broken off just below the point where it begins to contract. The sharp edges are then rounded in a Bunsen or spirit-lamp flame. To use it the child, for instance, lies on its back with its head hanging over the edge of a bed, table or its nurse's lap, so that the line of the face is vertical. About a teaspoonful of the vaseline is then melted in a table-spoon by holding it over the chimney of an ordinary reading lamp. The rubber of the pipette is then pinched, and as much as possible of the vaseline drawn up into the pipette; then the end is inserted into one nostril, the other being closed by the finger, and at the moment the rubber is forcibly pinched, the patient is urged to "shut the mouth and breath in quick and hard." In the dependent position of the head, the vaseline on reaching the naso-pharynx falls upon its roof, and indeed reaches the pharynx. This is repeated with the other nostril.

Y. M. C. A. Building, Dec., 1896.

CORRESPONDENCE.

To the LARYNGOSCOPE:

The LARYNGOSCOPE will please pardon me for writing a second time in regard to the practicability of Dr. Black's motor saw.

Having read Dr. Black's reply to my letter through the LARYNGOSCOPE, I then decided to write this letter acknowledging my mistake as to the setting of the teeth of Dr. Bosworth's saw. All the saws I used before I had one made according to my own idea were called "The Bosworth Saw," and the teeth were set forward. I had not the good fortune of reading Dr. Bosworth's original paper in which his saw was first described until he so kindly sent it to me a few weeks ago.

Dr. Black was in my office also a few weeks ago and showed me his motor saw.

To be consistent with my idea of removing all resistance to the forward movement of the saw, I consider the Bosworth saw as it is described by Dr. Bosworth and Dr. Black a compromise between the forward resistance of the teeth setting forward and the backward resistance of the teeth setting backward. This saw with equal resistance forward and backward may be practicable on account partly of the short stroke made by the motor, but I still believe that when any resistance to the forward movements exists there is danger of the saw first bending, then hanging and probably breaking. The less resistance to the forward movement the less apt we are to have the above accident.

Yours sincerely, S. M. PAYNE.

Nov. 30th, 1896.

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EDITORIAL.

EUCAINE HYDROCHLORATE IN NASAL OPERATIONS.

Eucaine hydrochlorate is a new alkaloid which is obtained by synthesis, and is recommended as a substitute for cocaine. The manufacturers claim that it is a perfect substitute for cocaine, which does not affect the heart, is permanent in solution, and is less expensive. Although recently presented to the profession, a number of writers have given their views and made their reports, and are almost universally in favor of this new alkaloid.

In its application for operations of the nose and throat a recent writer, Dr. Hal Foster (*Langsdale's Lancet*, August, 1896), has written favorably upon eucaine hydrochlorate, and claims that it can be used in all cases where cocaine is indicated, and that it is a safe and useful drug in nose and throat work. I have used eucaine hydrochlorate in my practice for several months, and while it appears as useful in the naso-pharynx and larynx as cocaine, I have not found this to be the case in nasal operations.

Cocaine in the nasal passages has not only the effect of anæsthetizing the mucous membrane to which it is applied, but it has another effect, and one which is of secondary importance only to its anæsthetizing effect in this region. This is its ischemic action—the depletion and collapse of tissues which enables the operator to inspect the parts fully, and thus to perform operations to the greatest advantage, and without great liability to injure the opposite parts of the nostril. When it was applied to the tonsils, the larynx or in the naso-pharynx, it has given me satisfactory results, but in preliminary rhinoscopic examinations, and in operations for removing polypi, catheterizing the antrum of Highmore, or other accessory cavities, removing posterior hypertrophies of the turbinates, curetting ethmoidal cells, and in applying the galvano-cautery for hyperplastic conditions, I have rarely been able to complete these operations without the use of cocaine. Where the nostril is to be anæsthetized for the passage of the Eustachian catheter, as is sometimes necessary, a weak solution of cocaine is also preferable.

One of the advantages of cocaine in rhinologic operations is its hemostatic effect, due to the contraction of the tissues. With eucaine not only is this contraction absent, but even the opposite effect takes place, viz.: congestion of the tissues; and a case has been reported recently in which considerable hemorrhage followed catheterization of the bladder, which was ascribed to the congesting effect of this anæsthetic on the mucous membrane. In operations in which cutting instruments are used, as in removing septal spurs, this would be another disadvantage in the use of eucaine hydrochlorate.

The cases in which I have found eucaine hydrochlorate of service in rhinological work is in the application of electrolysis for the relief of hypertrophic rhinitis. In this operation it is of advantage to avoid the collapse of the tissues, which interferes with the proper insertion of the needles, and as in eucaine hydrochlorate this is avoided, I have used it to advantage in such cases.

In regard to its rapidity of action, I have not found the time required shorter than in the application of cocaine in those cases in which I have used it. On the other hand, eucaine hydrochlorate possesses the advantage of being stable in solution, although I have never found any objection to the addition of a small amount of carbolic acid to the cocaine solution to prevent decomposition. In fact, the addition of this antiseptic, it is proved, not only increases its anæsthetic property, but also inhibits to some extent the toxic effect of the cocaine.

It is claimed that the systemic effects of eucaine hydrochlorate are much less than those of cocaine. This should not, however, prevent physicians from being extremely cautious in the use of this new alkaloid. Where cocaine is judiciously applied, evil results rarely follow, and in a very extensive use of this drug I do not recall a single serious effect, or more than passing inconvenience. A small amount of whisky is usually sufficient to correct the weakness which sometimes effects the patient, and a prophylactic dose of this stimulant is useful. In those cases in which fatal results have been reported from cocaine, they were due either to a reckless application of the anæsthetic or to the idiosyncrasy of the patient. When the enormous extent to which cocaine has been used is considered, the small number of fatalities is almost striking.

When, however, it is a question of idiosyncrasy, this may also be present when the new alkaloid is used, and when eucaine will be employed to any extent commensurate with cocaine, we may also expect to hear untoward results. Especially will this be the case if the writers insist, from a comparatively short experience with this alkaloid, on its harmless systemic effect. We should use it in such cases in which it is indicated, but always with extreme caution, otherwise we may learn to our sorrow that results may develop from the use of eucaine hydrochlorate which we were not led to expect from the limited experience which we have had with this new drug. W. S.

THE LARYNGOSCOPE NECESSARY TO THE GENERAL PRACTITIONER.

Although established but six months, The Laryngoscope has become a necessity to the well-posted general practitioner. This is evident from the daily list of new subscribers we have received for several months; and now comes our worthy confrere, *The Medical Fortnightly*, which publishes a list of ten medical journals necessary to the general practitioner, confirming this assertion. This list, made by an *old* practitioner, of course includes The Laryngoscope. No one engaged in the practice of medicine can keep abreast of the rapid advance made in this branch of his profession without it.

CONTRIBUTIONS TO THE FEBRUARY ISSUE.

The February issue of THE LARYNGOSCOPE will contain the following list of original articles, besides editorials and the usual condensation of the principal articles from current literature:

Dr. Gottlieb Kicer, Copenhagen, Denmark: "Hæmatoma of the Nasal Septum."

Dr. J. C. Mulhall, St. Louis: "The Purulent Nasal Catarrh of Adolescents."

Dr. H. J. Mulford, Buffalo: "The Value of Urinary Examinations to the Laryngologist."

Dr. Edwin Pynchon, Chicago: "Instruments Used in Tonsillotomy by Electro-Cautery Dissection."

Dr. Robert Barclay, St. Louis: "Can You Cure Deafness Caused by Catarrh?"

Dr. F. S. Milbury, Brooklyn: "The Relation of the Affections of the Upper Air Passages to Diseases of the Ear."

SOCIETY PROCEEDINGS.

SECOND PAN-AMERICAN CONGRESS — SECTION ON RHINOLOGY, LARYNGOLOGY AND OTOLOGY.

In the Second Pan-American Medical Congress, held in the City of Mexico, November 16th and 19th, the Sections of Ophthalmology, Otology, Rhinology and Laryngology held a joint session. These sections were but moderately represented, thus accounting for the brevity of the reported proceedings.

RESUME OF PAPERS.

Researches into the Technique of Laryngeal Operations, with Report of Four Successful Total Extirpations. George W. Crile, of Cleveland.

The author commenced his paper by calling attention to the close relationship existing between the larynx and both the lungs and heart, and the marked influence it possessed in many cases over both these organs. He stated that sometimes even slight contact with the mucous membrane of or about the region of the vocal chords produces partial and in many instances complete cessation of respiration; pressure or dragging on the larynx causes, in addition, a considerable, sometimes very great, slowing of the heart-beat and corresponding fall in blood-pressure, sometimes amounting to almost zero; section of the inferior laryngeal nerve has no effect on this phenomena, while section of the superior laryngeal results in abolishing it. The administration of atropia in physiologic doses abolishes the heart phenomena, but does not prevent the respiratory alterations. Cocaine hypodermatically guards the heart, but not the respiration; while if applied locally it prevents both the respiratory and circulatory phenomena.

These conclusions have been reached after experimentation on twenty dogs while under complete ether narcosis, and it is therefore assumed that the phenomena are due to reflex action caused by mechanical irritation of the peripheral terminals of the superior laryngeal nerves, and that cocaine applied locally paralyzes the same, even under complete anesthesia. The local application of this drug therefore suggests itself in certain laryngeal operations.

Malignant disease of the larynx was extensively discussed, and the author emphasized the claim that carcinoma probably cannot penetrate cartilage, and that its most frequent point of attack is in the region of the vocal chord, and thus early symptoms are produced. When suspected, a specimen should be secured and submitted to a competent pathologist, and if proven to be cancer an early and radical operation should be performed, as the author can see no reason why these operations, if done early, should not be extremely promising.

Even in neglected cases, usually foul and ulcerating, suffering from septic broncho-pneumonia, caused by the discharges or by the entrance of food, and where intense pain is present, an early and radical operation should be done; for, while it may not cure, it will give the sufferer a respite and prove to be merciful and humane. The strongest testimony on this point is from the patients themselves.

The essayist urged a technique that would guard the pulmonary tract, and lessen the time of operation to a minimum.

The four cases reported made good recoveries.

The Treatment of Whooping-Cough by Means of Asaprol. Dr. Moncorvo, of Rio de Janeiro, Brazil.

The author claimed that bichloride of mercury, resorcin, citric acid, and napthol are the only agents with which the development of the microbe of pertussis can be arrested. The first-mentioned is discarded on account of the danger attending its use, while the last-mentioned is too insoluble. Resorcin and citric acid have both been extensively and successfully used by local application to the glottis, but the author has found asaprol to be the most satisfactory remedy in combatting whooping-cough.

Symptoms of Speech Disturbances as Aids to Cerebral Localization. Dr. J. T. Eskridge, of Denver, Colorado.

He tabulated the principal disturbances due to lesions as follows:

1. Anorthographia is due to lesion at foot of left second frontal convolution in right-handed persons.
2. Oro-lingual paralysis occurs from lesion at extreme lower portion of central convolution.
3. Brocha's aphasia from lesion at foot of third frontal convolution.
4. Auditory disturbances of speech are caused by a lesion in the posterior portions of the first and second temporal convolutions.
5. Visual disturbances of speech result from lesions in or near the angular gyrus.

The various forms of apraxia are difficult to locate, but generally point to a lesion located at a point posterior to the Rolandic region.

SELECTIONS
FROM CURRENT MEDICAL PUBLICATIONS.

RHINOLOGICAL.

Asepsis of the Nasal Cavities.

After an elaborate review of St. Clair Thomson's, Wurtz's, and Lermoyez's papers, Piaget (*Journal of Laryngology*) relates the numerous experiments which he has conducted for the study of bacteria of the nose. In the normal state the nasal cavities are free from microbes, except the anterior part and vestibule. The culture of nasal mucus collected in the remote parts is sterile; the nasal cavities are normally aseptic. That asepsis is the result of the structure of the canal, of the ciliated epithelium, and especially of the bactericidal properties of the nasal mucus. That bactericidal action is absolute for carbuncle bacteria, very marked for Loeffler's bacillus, and less marked for staphylococcus and streptococcus. This asepsis explains to a certain degree the immunity of nasal operations.

Klemperer, of Strasburg, does not agree with the authors named, but maintains that in healthy noses, while it is true that bacteria are to be found in quantity only in the vestibule, still no part of the nose is germ-free. Let the anterior parts of the nose be thoroughly sterilized with perchloride of mercury and washed out with sterilized water; then wipe out the parts higher and deeper in with sterilized cotton-wool swabs. These (the swabs) always bring away a few germs, from which two, three, four, or more, frequently six, eight, ten colonies can be cultivated.

Klemperer cannot confirm the statements of Wurtz and Lermoyez as to the bactericidal properties of nasal mucus. Unlike these authors, he experimented not with anthrax bacillus, but with the bacteria which he had previously cultivated from the nose whose mucus he was testing. At first they did not grow well, and even diminished to some extent in number, but soon grew accustomed to the mucus and multiplied in it. Extinction was never observed.—*Universal Medical Journal*, Nov., 1896. S. S. B.

Epistaxis and Cardiac Disease.

Dr. Koplik presented a girl of about 7 years, who at about the age of 2 years began to have attacks resembling rheumatism, with fever and pain in the joints. These attacks recurred nearly every year. Later she began to have attacks of very persistent nasal hæmorrhage, recurring at intervals of a week, a month, or several months. The last hæmorrhage threatened life, and left her nearly exsanguinated, but finally ceased of its own accord. The child was still anæmic. Examination of the heart showed double mitral lesion and dilatation of the left ventricle, and possibly also of the right.—*Universal Medical Journal*, Nov., 1896. S. S. B.

Hæmorrhage From the Nose.

J. E. Brennan reports a case of serious hæmorrhage from the nose (*Louisville Med. Month.*) in a seventy-three-year-old patient. Ice, salt, and other household remedies, were used without avail. Tamponnage of both nostrils, recumbent position, and Monsell's solution in teaspoonful doses internally, did not check the hæmorrhage. Finally, one-half grain doses of ergotine were administered hypodermatically every fifteen minutes, new tampons also being inserted into the nose. After the fourth injection of ergotine the hæmorrhage ceased entirely. Plugs were removed three days later; there was no recurrence of the hæmorrhage. The exact point of bleeding was not ascertained.

Intra-Nasal Medication and Antisepsis.

St. Clair Thomson concludes an able article on this subject as follows: 1st. The interior of the nasal cavity being practically aseptic, it is quite uncalled for to try and make it more so. 2nd. The presence of a foreign body in the nose tends to produce a watery mucous flux, and consequently weakens the lining membrane. The vibrating cilia expel rapidly all fine solid particles coming into contact with them. 3rd. To extract purulent collections, it is better to employ non-irritant alkaline liquids than strong antiseptic solutions. 4th. It is important to disinfect the instruments and the fingers when introduced into the nasal cavities or naso-pharynx.—*Canada Med. Jour.*

To Overcome the Catarrh Following the Administration of Iodide of Potassium.

Dr. Cohen (*Lancet*) advises that in cases in which there is coryza from the use of iodide of potash, tincture of belladonna be used, five minims being added to each dose of the potash.

Treatment of Hay Fever.

In *The Medical Progress* for December, 1896, Dr. J. A. S. McCassy adopts the uric acid theory and treatment of hay fever proposed by one of the editors of the Laryngoscope at the Milwaukee meeting of the American Medical Association in 1893. Beside constitutional treatment and reduction of hypertrophies, "the exacerbation of the hay fever was treated by the local application of a 5-per-cent. solution of cocaine to the nasal mucous membrane, but this was only of temporary benefit; the effects of an application would wear off in from one to three hours. Fifteen to twenty-drop doses of dilute nitro-muriatic acid, or half-drachm doses of dilute phosphoric acid, administered three times daily, proved of signal utility in abridging the attacks. But one-eighth of a grain of sulphate of morphine, with a ninetieth of a grain of the sulphate of atropia, administered by the mouth every one to four hours, proved the most effectual treatment."

The dose of atropine Dr. McCassy mentioned is larger than is necessary, especially when it is to be repeated "every one to four hours." Such a use of atropia will not only produce excessive dryness of the fauces, but hoarseness and the eye symptoms characteristic of atropinism. Although the combination of morphia and atropia gives certain and prompt relief, the doses of atropia should not be larger than that mentioned in the July number of the Laryngoscope, page 27. The formula given there is as follows:

℞ Morphiæ sulphatis	gr. $^{1}/_{12}$
Atropiæ sulphatis	gr. $^{1}/_{600}$
Cafeinæ citratis	gr. $^{1}/_{6}$

S. S. B.

Treatment of Obliteration of the Nasal Orifice of the Lachrymal Duct.

H. Alland, in discussing this subject (*Upsala läkareförenings forhandlingar*) states that the diagnosis of obliteration of the duct is best made by flushing the canal with some liquid, when, if a valve or obstruction is present, the liquid will not pass through the canal. If a probe passed in at the ocular end of the canal can be touched from the nasal side, the presence of a valve is unlikely. A diagnosis should not be based on a single examination, as the obstacle may be of only temporary duration. If found to be permanent, it may be treated by means of an incision through the median wall of the naso-lachrymal duct, toward the inferior nasal meatus, the duct being cut by means of a scalpel introduced through the nostril. The author has also invented an instrument for the purpose, from which he has had good results, the inferior orifice of the duct remaining open two months after the operation.—*Universal Med. Jour.* S. S. B.

Ulceration of the Nasal Septum.

Dr. T. C. Christy (*N. Y. Med. Jour.*, Jan. 2, 1897) presents a series of cases in which the lesion, with loss of substance, was chiefly located on the mucous membrane of the septum nasi.

"Such lesions ordinarily are not encountered in the early stages of their development; consequently their definite causal relations and the pathological significance are the factors lacking."

He summarizes the etiology of the series of cases treated as follows:

SUBJECTIVE SYMPTOMS.

(*a*) Taking cold.

(*b*) Obstruction of one or both nostrils to free respiration.

(*c*) Pain over the superior nasal and frontal region corresponding to the obstructed naris.

(*d*) Generally, abolition of the sense of smell.

(*e*) Occasionally, pain in the eyes, or disturbance of vision.

(*f*) Pain in one or both ears.

OBJECTIVE SYMPTOMS.

(*a*) Nasal intonation.

(*b*) Externally, signs of acute inflammatory reaction extending over the obstructed naris; or, in the more chronic forms, the nose of a bluish cast, or the skin thickened, dry and scaly.

(*c*) The difficulty, often extending to an impossibility of inspecting the part, owing to the infiltration of tissues.

(*d*) The ineffectual influence of solution of cocaine for inspection purposes.

(*e*) The pale, sodden or macerated condition of the tissues involved.

(*f*) Pain on swallowing.

(*g*) The nature and appearance of the nasal discharge—a clear, glairy slime.

(*h*) Tendency to frequent hæmorrhage.

(*i*) The marked physical depression of the patient.

The Accessory Nasal Cavity in Diphtheria, Measles and Scarlatina.

Bacteriological examinations of the accessory cavities of the nose were made in twenty-two cases of diphtheria (M. Wolff, *Medicine*, September, 1896). In all there were disease changes in the antrum of Highmore. In seven cases only slight changes were observed, there being mucous and muco-purulent secretion without inflammatory changes in the mucous membrane itself. In the remaining fifteen cases there were more marked changes, the mucous membrane being in a condition of inflammatory edema, with hæmorrhages in places. The diphtheria bacillus was confined to the cases with marked changes, and was absent in three out of the fifteen. In these three the diplococcus lanceolatus was present twice, and the streptococcus pyogenes with the staphylococcus pyogenes aureus in one. The diphtheria bacilli were found alone in two cases only; twice they were associated with the diplococcus lanceolatus, once with the streptococcus, once with both of these, twice with the straphylococcus pyogenes aureus, three times with the streptococcus and the staphylococcus pyogenes aureus.

The sphenoidal sinuses were not developed in fifteen cases. In the other seven cases there were more or less inflammatory change. In six of these the diphtheria bacillus was present, three times alone.

The frontal sinus, in the only case in which it was examined, was the seat of severe edematous swelling, and contained the diphtheria bacillus and the staphylococcus pyogenes aureus.

The tympanic cavity was sterile in seven cases. In the other fifteen diphtheria bacilli were found six times, once only alone; in the others associated with other bacteria.

The age of the subject did not influence the severity of the disease in the accessory cavity.

Five cases of measles and two cases of scarlatina were also examined. Various bacteria were found, including the diplococcus lanceolatus, streptococci, staphylococci, and the bacillus pyocyanus. Severe inflammatory changes were found like those in the cases of diphtheria.

W. S.

Bacteriological Researches upon Caseous Rhinitis.

Guarnaccia (*Archivii Italiani di Laringologia*, No. 4, 1896) has made bacteriological researches upon caseous rhinitis. These studies refer to a case observed by Massei in his clinic. Guarnaccia has demonstrated that the micro-organism found in rhinitis caseosa, which was so differently understood by Perier, Sabrazès, etc., is the streptothrix alba, or Foersterii, studied by Rossi-Doria, Cohn, and Gasperini. The author was able to cultivate it in agar, gelatin, bouillon, blood-serum, potatoes, and milk. Inoculations in animals were not successful. It is perfectly correct, in his opinion, to assume that the considerable amount of caseous matter is formed by the growth of the streptothrix, as is the case in muguet.—*Universal Medical Journal*, Nov., 1896.

S. S. B.

Epithelioma of the Nares, Pharynx and Antrum.

Mr. G. A. Syme (*Intercolonial Med. Journal of Australasia*): At a meeting of the Medical Society of Victoria, a patient was exhibited upon whom an operation was performed for the above disease. Five years previous a mucous polypus had been removed from the right nasal cavity. At his reappearance his right nasal chamber and nasopharynx were found completely filled with a cauliflower-like growth. The right cheek was swollen. After a preliminary laryngotomy, the upper jaw was removed and the growth, which also filled the antrum, was excised. The patient now wears an obturator. The microscope showed the tumor to be an epithelioma.

At the same meeting Mr. Chas. Ryan demonstrated a case of excision of the upper jaw for a large mixed-celled sarcoma. The growth probably started in the antrum. The left side of the face was prominent, and there was proptosis of the left eye. The external carotid artery was tied before the excision. A dental splint is worn by the patient, and is very serviceable. M. D. L.

Endothelioma of the Nose.

Dr. F. Acerbi presents an histological study of a tumor spontaneously expelled by a woman twenty years old, suffering from the so-called rhinitis caseosa, in Professor Massei's clinic (*Archiv. Ital. de Laryng.*). The growth was decided to be an endothelioma, benign in nature, and but rarely observed, especially in the nose. The author states that it is the first of the kind recorded, after Dansac's case, though differing from the latter, which originated in the septum and endothelium of the blood-vessels, while in his own case it took its origin from the turbinate and lymphatic lacunæ.—*Universal Med. Jour.*

S. S. B.

Exostosis of Frontal Sinus.

This growth was removed from a female, 46 years old (Mr. Thilerall Thomas, *The Lancet*). It was present thirteen years, and was supposed to be the result of a blow. The patient suffered from severe frontal neuralgia. A small portion of the tumor protruded into the orbit. An incision was made well under the eyebrow; the orbital portion was grasped with a strong forceps, and a few taps of the chisel loosened its attachment to the bone. The floor of the sinus was also cut away. Dura mater formed the roof of the sinus. Drainage was carried out through the nose. The growth was an ivory exostosis, and weighed over half an ounce. Good results followed its removal.

M. D. L.

Turbinotomy in Nasal Stenosis.—An Analysis of Sixty-six Cases.

It will be remembered that Mr. Carmalt Jones, of the Central London Throat, Nose, and Ear Hospital, has for some time advocated the free and thorough removal of hypertrophied inferior turbinated bodies by means of an instrument called the "spoke-shave," which he devised for the purpose. He proposes this operation as a substitute for, and more thorough removal than, the usual method of electro-cauterization. It has not been generally adopted, for the reason that it is feared, in the first place, that too large an opening may be made, and subsequent dryness with incrustation of the nose and pharynx result; and, in the second place, the operation cannot be wholly free from serious danger of hæmorrhage. It is therefore interesting to note the analysis which Dr. Abercrombie, of Glasgow (*Journal of Laryngology, Rhinology, and Otology*, October, 1896) makes of Dr. Jones's cases. Out of the sixty-six cases relief was afforded by the operation in sixty-two—that is, in almost 94 per cent. of the cases the operation was successful in a greater or less degree. Of the sixty-two successful cases the relief afforded by the operation was very marked in twenty-one instances, and especially so in four of these. In fourteen cases decided improvement followed the operation, and in twenty-seven patients the operation gave slight relief only. The large majority of patients were young adults, although one was seventy-one and another but six years of age. Turbinotomy alone was performed in most of the cases, but in a few enlarged tonsils were removed, or adenoids scraped, in addition. Nitrous oxide gas was administered to five, being found quite effective, answering for the few seconds required for the operation. In half of the remaining cases a 10-per-cent. solution of cocaine was applied locally by cotton plugs, but in spite of this, pain was felt in every case. In the other half, no anesthetic, local or general, was given, most of the patients describing the operation as being very painful, but a few not seeming to regard it as painful. The bleeding in every case was profuse, but in no case was it alarming at the time of the operation, although more or less bleeding occurred from the nose for several days afterwards in many of the cases, and in one man a secondary hæmorrhage occurred, which was so serious as to necessitate his admittance to the hospital. Most of the patients returned to their homes on the day of the operation. Only one patient fainted after the operation. After-headache, more or less severe and chiefly frontal, was present in most of the cases, and slight swelling about the nose and eyes was not uncommon for a few days. In no case, so far as could be judged from the patient's letters, has atrophic rhinitis resulted, although in two the condition of phryngitis sicca is now observed; it is not certain, however, that this is the result of the operation. No external nasal deformity has resulted; rather the reverse. The nostrils being stimulated by the passage of air through them, become more active, the nose becoming larger instead of being a small and useless organ. Reproduction to a greater or less extent of the mucous membrane occurred; in fact, in some of the cases it has been necessary to operate a second time, or to use the cautery, so great was the reproduction of tissue.—*Medicine.*

S. S. B.

Classification of Asthma.

There have been numerous classifications of asthma (Saunders, in *Canadian Practitioner*), but it appears to me that they can all be included under three heads, according to the apparent provoking cause, viz.: 1. Irritation of the terminal filaments of the vagus nerve, either in the respiratory passages, particularly the nasal, or in the digestive tract, the stomach probably chiefly. 2. Irritation of the main trunk of the nerve itself. 3. Irritation of its origin in the brain. Of these three causes, the first two are decidedly the most common, and are frequently combined, as is illustrated by some of the cases I have recorded. The last, or purely nervous form, in which the paroxysm occurs independently of any local irritation, is probably rare, and I am inclined to believe will be found to be more uncommon the more thoroughly we are able to investigate the conditions in each of our patients under which an attack occurs. S. S. B.

LARYNGOLOGICAL.

The Diphtheria Question.

Prof. Carl Fraenkel, the eminent bacteriologist (*Berl. Klin. Woch.*, No. 36), in his thesis for the diphtheria discussion at the next meeting of the German Public Health Association, gives a comprehensive resumé of the present status of the question:

1. The cause of diphtheria in its true sense is the bacillus discovered by Löffler. The germ is to be found (*a*) regularly in the diseased portions (skin and mucous membranes); (*b*) often in the patient's vicinity; (*c*) rarely in the mucous membrane of healthy individuals.

2. Infection is carried (*a*) immediately to the healthy by the sick (coughing on a second person, kissing, etc.); (*b*) mediately, by objects to which the specific germs adhere (beds, linen and clothes, toys, dishes, food, etc.).

3. The development of the infection depends altogether on a special disposition, as is proved by the presence of diphtheritic bacilli in healthy organisms.

The struggle against diphtheria must therefore be directed to:

First—Destroying the bacilli: (*A*) in the sick, by (*a*) quickly curing, and shortening the course of the disease with the aid of the specific therapy with Behring's serum; (*b*) local treatment of the affected parts with disinfectants (Löffler's mixture); (*B*) in the patient's house, by disinfection of the diseased products (sputum, membranes), as well as of the sick-room, linen, clothes, etc.

Second—Infection is carried (*a*) immediately to the healthy by the sick (coughing on a second person, kissing, etc.); (*b*) mediately, prohibiting the patient's and relatives from attending school; forbidding people, especially children, to congregate in the houses of the sick or dead; supervising the traffic with victuals. These conditions are of the utmost importance. (*c*) The earliest possible recognition of genuine diphtheria by means of bacteriological examination of all suspicious cases, preferably at special central laboratories; and (*d*) compulsory notification based on the results of these examinations.

Third—Removing the disposition by: (*a*) care of the mucous membrane of mouth and throat; prophylactic gargling with disinfectants; (*b*) immunization with diphtheria antitoxine serum. — *Annals Oph. and Ot.*

Resorcin as a Prophylatic in Diphtheria.

Dr. Binet (*Pharm. Centrab.*, *American Medico-Surg. Bull.*, September 10, 1896) recommends resorcin as an effective, yet harmless, prophylactic in diphtheria. The mouth and nose of the child are washed out morning and evening with a 0.5 per-cent. solution. He prescribes a 20 per-cent. solution of resorcin, of which a teaspoonful is directed to be added to a glass of water.

The liquid has a pleasant taste, somewhat like licorice root, and is more strongly antiseptic than the boric acid, which is more usually employed. W. S.

Citric Acid in Diphtheria.

For many years an English physician has used pure lemon juice as the best tonic for diphtheria and sore throat in general, and mentions a case in which the son of a medical man in one of the Paris hospitals cured himself of diphtheria by constantly sucking oranges or lemons, a small basketful of which was placed for this purpose at his bedside. A Danish physician, Dr. Bock, recommends ten-per-cent. solution of citric acid to be given in spoonful doses every two hours.—*Pacific Record.*

Whooping-Cough.

℞ Tr. belladonna .... gtt. xxxij.
Acid carbol., C. P. .... gtt. viij.
Ammon. bromid .... ʒij.
Potass. bromid .... ʒvi.
Aqua menth. pip .... q. s. ad. ℥iv.
M. Sig.—Spray this in child's throat every two hours.

I consider whooping-cough a local nervous trouble; hence a direct application. I have used the above formula for about twenty years. It gives instantaneous relief. The same prescription also relieves hay-fever, rose cold, etc. DR. J. J. CALDWELL.

Paramonochlorphenol in Laryngeal Phthisis.

Hedderich made a trial of paramonochlorphenol in the treatment of thirty cases of laryngeal phthisis in the clinic of Professor Jurasz at Heidelberg (*Münch. med. Woch.*). All the patients soon, usually after the second application, were relieved of pain; the breathing became easier, the ulcers cleaner and healed, and infiltration diminished. In severe, progressive cases no improvement was perceptible. In only two cases did the improvement amount to cure, and even as to these reserve is necessary, as they were lost sight of. As regards unpleasant effects, in three of the cases, vomiting followed the applications, and the patients felt weak and ill for the whole afternoon after it. Paramonochlorphenol is phenol in which one H is replaced by Cl; it acts like carbolic acid. It dissolves with difficulty in water, but easily in glycerin. For the larynx the author used a 10-per-cent. solution in glycerin, which he applied with a sound wrapped up in cotton-wool. A 20-per-cent. solution produces a white eschar, as liquefied carbolic acid does. This solution he used for the nose and pharynx. The author admits that the results of the treatment in his hands were not brilliant, though he adds that treatment in an out-patient department is subject to many disturbing influences.—*Universal Med. Jour.*

S. S. B.

Iodol in the Treatment of Tuberculous Ulcers of the Larynx.

Dr. Hajek (*Revue Hebdomadaire de Laryngologie*) recommends the insufflation of iodol in the treatment of tuberculous ulcers of the larynx, not on account of any bactericidal power which iodol exerts beyond other antiseptics, but because of two advantages which it possesses. In the first place, it is insoluble and capable of forming a true protective antiseptic layer upon the surface of the ulcer with which it comes in contact. In the second place, it is an admirable disinfectant. After two or three applications the ulcer loses its dirty aspect, and becomes covered with healthy-looking granulations. In order to obtain all the desired results it is necessary, after each insufflation, to ascertain whether the iodol is deposited exactly upon the ulcerated surface, and if not to repeat the procedure until the lesion is covered. The insufflation ought to be given every three or four days.—*Med. Bulletin.* S. S. B.

Tuberculosis of the Tonsils.

Hans Ruge (*The Medical Standard*) believes tuberculosis of the tonsil is much more frequent than has been heretofore assumed (*Virchow's Archiv.*). It can seldom be demonstrated clinically, because ulceration is often absent. The only symptom may be enlargement of the tonsil. The occurrence of primary tonsillar tuberculosis is probable. He reports what he believes to be such a case, the tuberculous process extending from the tonsil to the cervical vertebræ. He also reports a case in which caries of the spine seemed to have followed tuberculosis of the tonsil. The author made microscopical examinations of the tonsils from seventeen individuals. Seven of the cases had tuberculous deposits in other localities. In five cases, also complicated with pulmonary tuberculosis, tubercle bacilli were demonstrated in the tonsil tissue. These observations of the author agree with the results of Strassman, who found tubercular infection of the tonsils in thirteen out of fifteen cases of tuberculosis of the lungs.

Tuberculous infection may occur in various ways: (1) Through the blood, *e. g.*, miliary and other forms of generalized tuberculosis; (2) through the lymph, *i. e.*, secondary to tuberculosis of the cervical glands; (3) through the sputum, particularly in tuberculosis of the lungs; (4) through the inspired air; (5) through the food, particularly milk and flesh infected with bovine tuberculosis.

The author concludes that the tonsils are an important primary seat of tuberculous infection. Children who suffer from enlargement of the tonsils should not be permitted to live with phthisical relatives, especially if the latter have expectoration. For not only is the inspired air laden with tubercle bacilli, but the food and eating and drinking utensils may be contaminated with bacilli from the air or hands and mouth of the infected one. When the tonsils have been enlarged for a long time they should be extirpated; and removal may be beneficial even when tubercle already exists. S. S. B.

Etiology of Tubercular Cervical Glands, Etc.

According to Mr. Nicolls' observation (*Edinburgh Med. Journal*, Oct., 1896), over 70 per cent. of the cases seen by him were manifestations of bilateral tubercular glands. He believes that a number of the naso-pharyngeal catarrhs with which we so frequently meet are of a tubercular nature. The presence of active tubercle baccilli has been established in the tonsils, follicular glands of the tongue, and in adenoids in persons not suffering from phthisis. Iodoform should be effectually applied after removal of this diseased tissue.

M. D. L.

A Case of Grave Hæmorrhage Consecutive to Tonsillotomy.

After having recalled the four principal causes of hæmorrhage consecutive to tonsillotomy (hæmorrhage in the case of hypertrophied and hard tonsils, hemophilia, special anatomical disposition of the tonsillar vessels, lesions of the carotid), Dr. Piergili reports the observation which he has made of a patient who had had both tonsils removed by means of Fahnestock-Mathieu's tonsillotome. (*Revue Hebd. de Laryngologie, d'Otologie et de Rhinologie*, Oct., 1896.)

The patient had a primary hæmorrhage from the right tonsil seven hours after the operation. The first hæmorrhage was arrested by the means in ordinary use (compression of the carotid, cauterization of the bleeding surface with a concentrated solution of argentic nitrate, sub-cutaneous injection of ergotine, the application of ice, etc.).

The patient had a second hæmorrhage nine hours after the first; a third the next day; a fourth three days after the third; and finally, five days later, a fifth. All the hæmorrhages were arrested in the same manner as the first.

In view, however, of the advanced anemia from which the patient now suffered, and to prevent the possible return of any hæmorrhage, it was decided to ligate the right primitive carotid. This vessel was selected instead of the external carotid as a provision against possible vascular anomaly. The ligature was applied under chloroform. During the two days following the operation, the patient had convulsions and paresis of the right half of the body. On the second day the temperature rose to 104°, but quickly descended to the normal after a rectal injection, which was followed by an abundant alvine evacuation. Gradually the conditions improved, the anemia being combatted by injections of citrate of ammoniated iron. It was two months after the operation before the patient was again restored to health.

Tonsillotomy is, therefore, not entirely a trivial operation. Before operating it is well to be assured of the normal position of the carotid and of the consistency of the tonsillar tissue.

Both tonsils should never be removed at one sitting, and, during the operation, the head of the patient should be bent backwards.

When once the hæmorrhage takes place, we should attempt to pass a ligature around the base of the tonsil, and it is only when every other means has been exhausted that we should have recourse to ligating the carotid. W. S.

A Retro-Pharyngeal Hæmatocele Following Lancing of the Tonsils.

A colored girl, twenty-five years old, suffered from simple tonsillitis (Dr. John R. Winslow, *Journal of Eye, Ear and Throat Diseases*, October, 1896). The right tonsil was lanced, and anti-rheumatic treatment instituted. The patient returned upon the succeeding day with a "tremendous" bulging forward of the posterior pharyngeal wall and right palatine arch, and upon incision a cupful of dark, partially-clotted blood was evacuated. Evidently a small tonsillar vessel had been severed, with hæmorrhage beneath the tissues. The wound healed quickly under antiseptic irrigation without further difficulty.

W. S.

Examination for Tubercle Bacilli.

The examination of sputum for the tubercle bacilli has been attended with some difficulties that Spengler (*Deutsche Med. Woch.*) thinks may be obviated by following this procedure: Equal parts of sputum and lukewarm alkaline water are thoroughly mixed with from two to fifteen grains of pancreatin, and are allowed to digest at the body temperature for from two to three hours, when a few drops of strong carbolic acid are added to prevent putrefaction. A sediment quickly forms. The supernatant fluid is poured off, fresh alkaline water is added, and a further digestion in the incubator is allowed. The sediment after this second digestion is smaller. It is collected on filter paper, and is examined in the usual way for the bacillus tuberculosis.

By this method the sediment from a day's sputum is so small, as a rule, that a few cover-glass preparations only are needed for its thorough examination. There is no impairment of the staining qualities of the bacilli, and Spengler has found this a very quick and reliable method of examination when the tubercle bacilli are present in small numbers. It is, of course, unnecessary when they are abundant.—*American Journal of the Medical Sciences.*

Cancer of the Larynx.

Prof. Störk, of Vienna (*Engl. Med. Press*, Dec. 25, 1896), concludes that all statistics are valueless. The diagnosis of the disease should be made early, when the trouble is still within the limits of the cricoid.

and thyroid cartilages. In advanced cases the glands of the neck are affected, and in these operation had no object. The artificial larynx is not a good substitute, as the patient cannot breathe with it, and he would rather be aphonic than have his respiration interfered with. B. Fraenkel states that as long as we treat the sick we must operate, even if the disease attacks the œsophagus. The chances must be placed before the patient, and the latter must decide. In extreme cases he removes the entire larynx, without regard to the pharynx. The trachea is sutured to the skin, and the other cavity is closed, so that only a passage for the food is left. Semon remarks that all cases of chronic hoarseness should be examined by experts, as cancer of the larynx was permanently curable so long as it was limited to the vocal cords. Sixty-six per cent. of his cases had recovered. M. D. L.

An Enormous Fibroma of the Larynx.

Hoarseness and dyspnœa were symptoms complained of by a patient 61 years of age. These manifestations were greatly increased during the four months previous to his consulting the author (Chiari, *Brit. Med. Jour.*). The patient spoke best when the head was bowed forwards. Laryngeal examination showed a tumor one and three-quarter inches long by one and one-half inches broad. It appeared to rise from the right aryteno-epiglottidean fold, and which during expiration or phonation was pushed out of the larynx, concealing the view of the larynx. The growth appeared soft and lobulated, with visible vessels over its surface. It seemed to vary in size on different examinations. Tracheotomy was performed, and after cutting through the first two rings of the trachea, the tumor immediately appeared, proving that it was larger than at first supposed. Asphyxia followed the introduction of the canula, and the operation had to be stopped while artificial respiration was being carried out. The whole growth was finally removed through the wound by means of a hot platinum wire. The tampon and canula were removed on the fourth day, and except for some œdematous swellings on the false cords, which were excised, the patient made a good recovery, with a strong but rough voice. The tumor was the size of an apple, and was composed of connective tissue similar to a soft fibroma. It was attached to the right aryteno-epiglottic fold and false cord. It was very vascular, though little bleeding occurred at the operation. Its dimensions were two by one and three-quarter inches by one and one-half inches.

M. D. L.

A Case of Epithelial Tumor Developing in the Neighborhood of the Thyroid Gland, and Which Terminated in Death by Asphyxia.

Drs. Byonca and Meniere report the case of a sixty-seven-year-old man, who had already undergone thyroidectomy, who was emaciated and suffered from progressive dyspnœa, with frequent coughing, aphonia and cyanosis. There was no edema of the glottis, but marked paresis of the vocal cords, which remained in the position of abduction; there were no internal signs of a tumor. (*Ann. des Mal. de l'Oreille et du Larynx.*, May, 1896.) It was thought that there was a retro-sternal compression in the trachea, due probably to an accessory thyroid. Death, which followed, was due to the progress of asphyxia.

The autopsy showed that the inner part of the trachea was surrounded by a grayish-white tumor, in the substance of which there were small foci of caseous softening. The trachea was strongly flattened, as also the œsophagus, from the pressure of the neoplasm. The microscopical examination demonstrated that it was a fibrous carcinoma, originating from the thyroid body; it is probable that this tumor developed from the goitre, the removal of which had not entirely relieved the patient. W. S.

Relation Between the Female Sexual Apparatus and Laryngeal Affections.

At the sixth reunion of Belgian Laryngologists (*Revue Internat. de Rhinol.*) M. Bayer said that his investigations had demonstrated that a physiological and pathological relationship existed between the sexual apparatus of the female and the larynx (*Medical Bulletin*). He cited in illustration a recently observed case. On May 9 of the present year he was consulted by a woman, 34 years of age, with pronounced symptoms of laryngeal stenosis (dyspnea, aphonia, cough, expectoration, etc.), in short, of advanced tuberculosis. Laryngoscopic examination revealed an ulcerous tuberculous laryngitis, with swelling of the epiglottis, arytenoids and interior of the larynx to such an extent that the glottis was reduced to a narrow slit. It seemed that tracheotomy was demanded, and the patient was referred to the service of the speaker at the surgical institute; however, the operation was postponed on account of an abortion. She was three months pregnant and had neglected to speak of her condition. M. Bayer was asked to visit the woman at her home, and, to his astonishment, eight days after the abortion, found that the swelling of the larynx had subsided so that there could be no question of tracheotomy, and her entrance to the hospital was no longer necessary. She was placed upon a treatment of 20 per cent. creosoted vasogene with superalimentation and hygienic care, with subsequent local treatment.

It appears from the foregoing case that pregnancy may exert upon laryngeal affections an influence analogous to that which M. Bayer has, in several cases, witnessed in menstruation. In such cases, therefore, we should never neglect to inquire into the condition of the sexual organs, which might reveal valuable indications in relation to rebellious laryngeal symptoms. S. S. B.

Thyrotomy (Crico-Thyrotomy) for Removal of Intra-Laryngeal Growths.

In an interesting and valuable paper, in which a series of cases upon whom the operation was performed are tabulated, Walker Downie M.B. (*Glasgow Med. Journal*, Oct., 1896) gives his results and some practical suggestions. If the growth is benign and simple in formation, it should be removed, if feasible, through the natural passage. With papillomata, however, the growths are usually multiple, the area affected is widespread, and recurrence so often happens that he advises thyrotomy as being a more serviceable method. He first performs a tracheotomy a few days previous to opening the larynx, so that the patient may become accustomed to the tube. When the cartilages are exposed and the bleeding is checked, he withdraws the tracheotomy tube, and same is introduced after the larynx has been packed with gauze. He practices division of the thyroid cartilages throughout their entire length, and removes the growths individually. After all diseased tissue is removed, the divided structures are brought together and held by strips of adhesive plaster. On the following day the packing is removed and the galvano-cautery is applied to the formerly diseased area, as well as all suspicious points. The cut edges of the cartilage are then carefully adjusted and sutured, as is also the skin incision. If no contra-indications arise, the tracheotomy tube may be removed on the second day. Out of eight cases operated upon for fibroma, papillomata, œdematous granulation, tissue from the subglotic region, epithelioma and mucous polypus, one case died of septic pneumonia. In the others good results are recorded. In one of the above cases the laryngeal stenosis was due to syphilitic ulceration and cicatrization. M. D. L.

Resection of the Trachea.

Föderl reports the case of a boy, 6 years old, in whom the trachea was resected on account of the obliteration of the passage (*Engl. Med.*

Press, Dec. 25, 1896). The mother in a fit of madness cut the child's throat, which was afterwards sewn together, while a canula was inserted. On examination, Störk found the vocal cords adherent, with a narrow communication between the trachea and larynx. Gussenbauer found it necessary to perform tracheotomy, so the opening was extended to the original fistula, where the larynx was found dislocated. After adaptation and readjustment the wound was closed, and in five days the canula was removed, leaving the breathing free and the voice clear. M. D. L.

Laryngeal Stenosis.

A peculiar case of laryngeal stenosis, with fatal issue, is reported by Backlund (*Goteborg läkaresallskaps forhandlingar*). The patient, a child, 20 months old, was received into the Goteborg Hospital for Infectious Diseases on account of severe symptoms of croup. Tracheotomy was performed, but the child died. At the post-mortem examination the author found the needle of a fir-tree immediately beneath the rima glottidis. It was 1.5 centimetres long. The lungs were atelectasic, and there was some broncho-pneumonia.—*Universal Med. Jour.* S. S. B.

A Case of Œsophageal Hæmorrhage With Cirrhosis of the Liver.

The cases reported, and two other cases referred to by G. M. Garland, Boston (*Boston Med. and Surg. Jour.*, September, 1896), show that hæmorrhage from the œsophageal veins may precede many of the other and more familiar symptoms of cirrhosis. On the other hand, a certain number of cases have been reported where hæmorrhage from the œsophageal veins occurred without cirrhosis of the liver, so that hæmorrhage from these veins cannot be considered an infallible symptom of cirrhosis. W. S.

Ethyl Bromide Anæsthesia in Minor Operations.

In the discussion of an excellent article on "Novelties in Anæsthetics and Anæsthesia," by Dr. E. Souchon, before the Orleans Parish Medical Society, Dr. Scheppegrell stated that he had had at first difficulty in obtaining pure ethylic bromide; but in the last two years, by ordering Merck's preparation in sealed tubes, he had had no difficulty in this respect. Leaving out the element of danger, although he had heard of no trouble since the use of the pure article, one objection is that, as soon as the patient is fully under the influence of ethyl bromide, there is a tonic contraction which often causes serious delay, as you lose valuable time in inserting the gag; in fact he has seen teeth forced out in such efforts.

For over a year, however, he has overcome this difficulty in the following manner: The assistant applies the inhaler, well saturated with ethylic bromide, to the nose of the patient for a few seconds, until the patient, who is in a sitting position, shows the first signs of relaxation; then the mouth is quickly opened by inserting a tongue depressor, the gag put in and the anæsthesia continued. In about sixty seconds the patient is well anæsthetized; the mouth is at once opened by means of the gag, and the patient is ready for the operation.

The objection that the anæsthesia lasts only for a minute or two is of no great importance, as this time is quite sufficient for removing tonsils or adenoid growths.

The effect on different persons is dissimilar. He has known patients to sit down and take the ethylic bromide, and in three minutes get up and complain of no bad effects. In the majority of cases, however, there is a period of nervous excitement, which lasts for an hour or more, which is a disagreeable feature in the use of this anæsthetic.

He has twice seen cases of enuresis from the use of ethylic bromide, and both times in the same patient. Believing that the assistant might have given the anæsthetic too freely when this occurred the first time, it was administered very sparingly on the second occasion, but the enuresis took place as soon as the patient began to relax. Curious to relate, this patient appeared to suffer no ill after-effects from the ethylic bromide, and the nervous irritation, which frequently follows, was not apparent in his case.—*Proceedings of the Orleans Parish Medical Society*, 1895.

Iodide of Potassium or Iodide of Sodium.

According to Briquet (*Revue Internationale Médecine et de Chirurgie*, April, 1896) the sodium iodide is preferable to potassium iodide in all maladies of the respiratory tract and for certain rheumatic pains. The potassium salt is badly tolerated in many instances of hepatic disease, but is undeniably good in these cases. He has found that where the patients do not tolerate iodide of potassium well the employment of iodide of sodium first prepares them for the potassium salt. He has also been able to get the effect of the iodine in many patients by the use of the sodium salt when the potassium was contra-indicated because of its depressant effect.—*Therapeutic Gazette.*

Foreign Body in the Larynx.

Alarik Lindh (*Goteborg läkaresallskaps forhandlingar*) describes the case of a child, 8 months old, who, while playing with a pasteboard box swallowed a corner-clip of tin bent rectangularly. Lindh cut through the cricoid cartilage and the first tracheal ring and dilated the incision, and then pushed up the foreign body into the pharynx by means of a sponge-holder with a small sponge attached. He then introduced a silver canula, which he removed four days later, the child recovering—*Universal Med. Jour.* S. S. B.

A Jack-Stone in the Œsophagus Located by the Fluoroscope and Removed After Performing Gastrotomy.

A three-year-old child, while playing with jack-stones, was observed to be choking, from which he had became "blue" in the face (Alfred C. Wood, Philadelphia, *University Med. Mag.*, October, 1896). His mother came to his assistance, and on introducing a finger into the child's mouth felt a jack-stone, which was accidentally pushed further down in the attempt to extract it.

The child was unable to swallow any solid food after the accident, and four days later began to refuse liquids, which it took at first, but with some difficulty.

Although the history seemed definite, the positive information by means of a skiagraph was deemed advisable. The child, however, was too unmanageable to allow the skiagraph to be taken with the apparatus on hand, which required one-half hour's exposure, so the fluoroscope was tried, and the observer could plainly see the foreign body in question. After the positive information obtained with the fluoroscope, and the failure to remove the obstruction by means of the oral methods, a gastrotomy was done, and the jack-stone successfully removed. Convalescence was uninterrupted and uneventful. W. S.

The Intrinsic Movements of the Vocal Cords and the Treatment of the Singing Voice.

In the December issue of *The Pacific Medical Journal* appears an admirable paper on the above subject, read before the San Francisco County Medical Society by Dr. Frank Donaldson, Professor of Physiology, College of Physicians and Surgeons, San Francisco.

The author first points out that the intrinsic movements of the cords were not studied until 1878, when Oertel described an instrument, the laryngo-stroboscope, which he used to examine the vocal cords during phonation; but it was not until 1895 that he described the perfected instrument and the results of experiments with it upon the larynx.

Dr. Donaldson fully illustrates his article with cuts of the stroboscope (which is a refined modification of the toy of that name), and of the end of the vibrating cords as seen with it.

If the vocal cords of a singer are examined with this instrument, and the lowest note is sounded, while the disk of the stroboscope made to revolve more slowly than the rate of the oscillation of the cords, these will be plainly seen to vibrate through their entire length and breadth, the vibrations being synchronous, and the extent of the oscillation extensive.

In the *upper* register, however, the vocal bands are seen vibrating through their entire length and breadth, but character of the movements is entirely altered. The vocal cords are flatter and thinner, and are divided into two segments, an outer and inner, which have their own rates of vibration.

Donaldson regards the treatment of the larynx as generally a reproach to our art as regards that form of trouble present in voice-users—actors, speakers or singers—as a result of constant strain, overwork, or of a faulty method of voice-production. He deprecates the prevalent use in such cases of astringents to the cords, either directly or by inhalations and insufflations, which, he asserts, may temporarily improve the condition of the cords, but do not remove the cause of the hoarseness and vocal break-down. He especially objects to silver nitrate. While absolute rest of the cords helps, Donaldson says that it is a very serious matter often to the patient, and besides does not permanently relieve.

The real causes of condition are faulty methods of breathing and of vocal training, and the desideratum in this respect is fulfilled by the method of Curtis, of New York, which he introduced in 1893. Curtis' method is described, and also its points of difference from other methods, and Donaldson has found it surprisingly successful.

He examines the nose and naso-pharynx carefully in all cases of vocal strain, and calls particular attention to "the tremendous influence of the upper cavities in the formation of tone," and to the importance of removing all abnormal conditions found therein.

F. B. E.

The Development of the Higher Vocal Register by Electricity.

In the consideration of the subject, Wm. H. King, in the *Homeo. Eye, Ear and Throat Journal*, Dec., 1896, gives an interesting description of the physiology of sound and the larynx, and some practical suggestions concerning the application of electricity to the laryngeal muscles. The comparison of the vocal organs to various musical instruments is maintained throughout; the differentiation of tones and overtones is clearly explained. "If we analyze the vibrations of the string of a musical instrument, we find it is composed of two distinct sets of vibrations, those of the string as a whole, unless it is dampened, and those of sections of the string which vibrate independently. The result is a difference in the notes produced by the two sets of vibrations. The note produced by the vibrations of the string as a whole is known as the fundamental tone, while the higher ones produced by vibration of sections are known as overtones. It is these overtones which give the distinctive sounds to different musical instruments, and were it not for them the human ear would be incapable of distinguishing a piano from a violin or other musical instrument."

"We find the vibrations produced by the vocal cords are re-inforced by vibrations of a sounding-board located in the mouth and upper air passages, which in turn produce vibrations that are conveyed to the human ear.

"The singer has the power, by certain muscular movements to so change the light of vibrations produced by the vocal cords, by changing the shape and length of the cavity of the mouth, that he can by this means change the pitch of the fundamental tones. He can adjust and proportion the length of the vibration, but his power in this direction is limited, and in order to produce the higher overtones, or in other words the higher notes, there must be an increase in the rate of vibrations of the vocal cords."

The author then considers the application of electricity as a means of obtaining increased rapidity of vibration of the cords.

The musculature of the larynx is discussed at length, and the relationship of the nerve supply of these muscles to the electric current is emphasized.

The purpose of the article is to indicate the value of electro-therapy applied to the superior laryngeal and recurrent laryngeal nerves in the development of the groups of muscles supplied respectively by these nerves.

The author opposes the opinion of Morrell McKenzie that "electricity applied externally acts as a local tonic only and may be useful in allaying irritation, etc., but it is of no use in developing muscles. In order to accomplish this it must be given internally, as one author quoting this opinion says, so as to pass through the muscles."

"The reason why Dr. McKenzie did not have success with the external application was due to a faulty understanding of the use of electricity in muscular development."

The current to be applied, as advocated by the anthor, is the interrupted galvanic current.

The small-size Erb electrode, preferably of oval shape, is the electrode selected. The first motor point is reached by placing the electrode along the posterior border of the thyroid cartilage, about an eighth of an inch above the line drawn directly backward from the pomum Adami. The second motor point is located by carrying the finger back along the side of the cricoid cartilage until the point of articulation with the inferior corner of the thyroid cartilage is reached. Just back of this point the distinct beats of the carotid artery will be felt. The electrode should be firmly pressed between these two points, and the nerve (inferior laryngeal) will at once respond.

The last consideration of the paper deals with the condition in which this treatment is applicable.

The fact that this treatment has to be given to each side of the larynx separately makes it particularly applicable in conditions of unilateral weakness of the muscles.

General weakness of the laryngeal muscles; atrophy of the muscles from over-use, so frequently observed in professional singers; also those conditions in which a passive congestion of the vocal cords and the surrounding tissues is observed—all these come within the range of the interrupted galvanic current applied according to the method described.

OTOLOGICAL.

Binaural Hearing.

Bloch (*Arch. of Otology*) sums up the characteristics of binaural hearing as follows:

1. With binaural conduction of a sound there is an alternating increase in the auditory impression.

2. This increase grows less as the two auditory impressions become more dissimilar.

3. It depends, probably, not only on the addition of the bilateral accoustic excitation and the transference of the perception to the interior of the head, but also on an actual central increase of excitability.

4. With the binaural conduction of a tone or a noise into the auditory canal, or in its neighborhood, the sound is heard in the head.

5. The subjective auditory field lies on the side of the stronger perception. By changing this, the location of the field may be altered at will.

6. Its location in the median plane, and the perception of the character of the tone, depend on the relation between the phases of the sound waves on each side.

7. The most important function of binaural hearing is the recognition of the direction of sound.

8. This is more perfect in the horizontal and frontal planes than in the sagittal.

9. In the two former it depends chiefly upon the comparison of the intensity of the sound perception on both sides, and in less measure on the influence of the auricle on the conduction of the sound waves to the canals.

10. In the sagittal plane the last factor alone comes into play.

11. Different characteristics of the sound, such as its duration, intensity, and timbre, influence our judgment of the direction, particularly in the sagittal plane, corresponding to the more frequent excitation of the auditory nerves, and the repeated experiences of daily life.

12. In the estimation of the distance of a sound, we judge less from the total intensity than from the intensity of the component single sounds.

13. The judgment of the direction of sound with one ear alone is very poor.

14. It does not seem necessary, in judging of the direction of sound, to take into account any other than the physiological and psychological factors here discussed.—*N. Y. Med. Jour.*

Otological Peculiarities of the Negro.

Roaldes (*Rev. de Laryngol. et d'Otol.*) notes that in the negro the concha is smaller and more fleshy than in the white. The outlines of elevations and depressions of the anterior surface are less graceful. The concha is more closely applied to the skull than in the white. The external auditory canal is more developed and spacious and much straighter in the negro. The mastoid apophysis is less developed, the cortical portion is harder and thicker, and the antrum is less spacious in the negro. The naso-pharynx is very much more spacious, the mouths of the Eustachian tubes are much larger in the negro, and the nasal septum is much straighter and more regular than in the white. The negro is much less prone to eczema of the auricle and canal, but is more liable to keloid degeneration than the white. Deafness of all kinds is much less common in the negro, and this is also true as regards deaf-mutism.—*N. Y. Med. Jour.*

On the Use of Tannin in Powder, in Chronic and Subacute Suppurative Otitis Media.

This remedy has given good results in the author's hands (O. D. Pomeroy, in *N. Y. Polyclinic*, Nov. 15, 1896). It must not remain in the ear for any length of time as it soon becomes converted into a black crust, which is thought to be the oxide of tannin and is difficult to remove. The ear should be douched every few days, as the crust is not likely to have formed at this time. It has no decided action upon granulation tissue, but what is called a granular surface is soon reduced to a pale dry skin like non-secreting membrane under its application. A pultaceous, soft or relaxed secreting tissue rapidly responds to its action. It is not to be employed in diseases of the attic, or if any carious or necrotic bone requiring removal is present. After the extractions of the diseased bone, it may be applied. A number of cases are cited in which the remedy acted satisfactorily.

M. D. L.

Study of the Various Methods of Treatment of Chronic Purulent Otitis Media.

Dr. Hammon du Fougeray believes with Pollo, of Nantz, and the majority of prominent specialists, that there is no universal treatment for otorrhœa, but that each case has its special indications. (*Ann. des Maladies de l'Oreille*, etc., June, 1896). A good form of treatment, in his opinion, would be the one which unites the four following conditions:

1. Disinfection of infected surfaces.
2. Assuring the discharge of pus by drainage.
3. Avoiding mechanical or chemical irritation.
4. Preventing secondary infection from without.

He avoids injections in the greater number of cases, as their sole object is to wash the canal, but not the tympanum; the use of boric acid powder is admissable, provided it does not prevent the free discharge of pus. He prefers the methodic tamponnage with gauze, although he has not definitely fixed on the particular kind, as the iodoformed, the salicylated and the sublimated are too irritating for the auricular canal; he is now making experiments with the chinoline naphthalated gauze of Haug.

Dr. Hammon believes that 60 to 70 per cent. of chronic otorrhœas can be cured in this manner, without the least curetting or cauterization, the extraction of polypi or of the ossicles. We are justified in making use of the surgical methods only after a sufficiently prolonged treatment of the above method, which he designates under the name of "methodic tamponnage with antiseptic gauze." W. S.

Electrolysis in Stricture of the External Auditory Canal.

Acquired connective tissue strictures of the external auditory canal usually may be ascribed to ulcerations in the course of chronic middle ear inflammations (Ostmann, in *Berl. Klin. Woch.*, No. 34). The granulations spring up, meet and fuse, thus leading either to complete connective tissue atresia, or stenosis of greater or less degree. If the suppuration from the middle ear continues, greater danger from pus retention arises. Operative interference has been quite unsuccessful, as the stricture tends to form again; dilation by means of tents or galvano-caustic destruction do not give permanent results.

In surgical procedures for the relief of such strictures there is the danger of infection of the wound by the purulent secretion of the tympanum.

Ostmann successfully removed a considerable connective tissue stricture by electrolysis. After thoroughly disinfecting the canal, a double needle was thrust, at the upper wall, through the base of the stricture, and a galvanic current of four or five milliamperes passed for five minutes. In four sittings the stricture was permanently removed. Even with weak currents the pain of this electrolysis is quite severe, and cocaine may be applied. The inflammatory reaction is slight. The result is permanent in the case reported. — *Annals Oph. and Ot.*

Thrombosis of the Petrosal, Cavernous and Circular Sinuses Occurring in Scarlet Fever and Due to Acute Suppurative Otitis Media.

This fatal sequela occurred in a child 17 months of age (J. W. Stirling, *Canada Med. Record*, Nov., 1896). The patient was referred to the author for the inflammation of the middle ear, which rapidly involved the mastoid. A mastoid operation was performed and the posterior wall of the external canal, together with considerable carious bone surrounding the sinus, was removed. Three days later intense œdema of the left upper eyelid developed, which so rapidly increased that the eye could not be examined. On the next day the right lid became swollen. There was no acute inflammation of the front of the eye at the onset. This swelling soon subsided, but the patient remained in a semi-comatosed condition, and died three days later.

The autopsy revealed thrombosis of the left superior petrosal, the cavernous and circular sinuses. It was a parietal thrombus adherent to the walls of the sinus. The clot did not completely fill the lumen of the vessels, but was fairly organized. The infection was supposed to have followed through the small veins of the attic of the middle ear which empty into the superior petrosal sinus. The eye symptoms on the right side pointed to an extension through the circular sinus.

M. D. L.

Some Recent Modifications in the Surgical Treatment of Diseases of the Attic and Mastoid Process.

Adolph Bronner calls attention to the frequency of diseases of this region, and remarks that operative interference in such cases is too often postponed (*Brit. Med. Jour.*). He agrees with Schwartze, Stacke and Macewen in their methods of exposing the middle chamber, and causing the mastoid antrum, external canal and middle ear to form one large cavity. He prefers Macewen's operation of prolonging the post-auricular incision around the upper portion of the auricle, thus permitting the ear to be drawn downwards and giving a better view of the diseased parts. All affected tissues should be removed. In cases of cholesteatoma a permanent opening can be kept by inserting a flap, formed from the skin behind the ear, into the mastoid wound. As long as there is any rise in temperature, or much discharge, the mastoid wound should be kept open. The author advocates exploratory incisions in doubtful cases. (This sentiment harmonizes with the suggestions offered by the abstractor in an article entitled: "Cerebral Disease following Middle Ear Suppuration."—*Journal A. M. A.*, Sept. 12th, 1896).

In conclusion, Dr. Bronner endorses the indications for opening the mastoid as given by Schwartze:

1. In acute, primary or secondary inflammation of the mastoid process, if under treatment, the symptoms do not improve in a few days.
2. Chronic inflammation of the mastoid, with recurrent attacks of swelling.
3. Fistula over or near the mastoid.
4. Chronic inflammation of the middle ear without apparent affection of the mastoid, if there are any symptoms of retention of pus, or diseased bone (pain, fever, etc.), or if there is a cholesteatoma.
5. Persistent pains over the mastoid process.
6. Chronic otorrhœa without any symptom of retention of pus or swelling of mastoid, as soon as we have reason to think that the inflammation has spread beyond the middle ear.

M. D. L.

Modification of Stocke's Operation.

This modified method is offered by M. Gellé (*Journ. L. R. et O.*, Dec., 1896), in order to avoid the chance of wounding the facial nerve and the horizontal semi-circular canal. After opening the mastoid cells and infundibulum of the antrum in the usual manner, the author puts aside the chisel and mallet, and substitutes a small chain saw to cut away the remaining bridge of bone. The links of the chain are short and the instrument easily passes from the antrum to the open tympanum, guided by a wire previously introduced. Two cuts are made, one from above downwards, directed towards the apex; a second horizontal. In this manner the cutting of deep parts is made from within outwards, and takes place external to and below the important tissues. This instrument has only been used on the cadaver.

M. D. L.

Foreign Body in the Ear Resulting Fatally.

Voss (*La Sem. Med. de St. Petersburg*, Jan. 10, 1895) reports the case of a child five years old, who pushed a dry pea into his ear. Four doctors spent several days endeavoring to extract this body, and only succeeded in pushing it quite out of sight. On the fifth day the foreign body was embedded in the tympanic cavity, whence it was removed after dissecting the ear forward and opening the posterior wall of the auditory passage; the tympanum was crushed, the ossicles were broken, the cavity was suppurating. The fever from which the child was suffering at the time of abstraction continued, and the patient became comatose and perished four days later.—*Medical Progress.*

S. S. B.

NEW INSTRUMENTS.

A Modified Nasal Snare.

The original Jarvis has been subjected to numerous modifications; the most recent improvement is reported by Samuel Goldstein in the *N. Y. Med. Journ.*, Dec. 12, 1896. To the Sajous form of the Jarvis snare is added a small canula for the application of a transfixion needle. Finger rings are added laterally to afford the operator a firmer hold of the instrument.

Speculum Devised for the Purpose of Facilitating Examination of the Post-Nasal Space in Difficult Cases.

Dr. Wood (*Journal of Laryngology*, October, 1896) describes an apparatus consisting of a Gutsch's mouth speculum, into the front of which a pain of glass is fitted, thus preventing the patient from breathing through the mouth, and compelling him to breathe through the nose, thus relaxing the soft palate. The tongue is at the same time kept down by the blade intended for that purpose in the original instrument. Thus both the nose and the mouth are necessarily open to the throat, when by putting the post-rhinal mirror into position (the stem lying between the lips and the speculum) the post-nasal space can be easily examined. The glass pane is placed at a slight angle, on the same principle as the glass in Siegel's ear speculum, and for the same purpose, *i. e.*, so that the light from the forehead mirror should not be reflected back to the eye.

The instrument is made by Messrs. Meyer & Meltzer. On account of the difficulty in having the maker carry out his design, Dr. Wood has thus far had but little experience with this new instrument. He thinks that the instrument should be made of several sizes, so as to fit different mouths, and also that the tongue plate should be made of bendable material so that it might, if necessary, be accommodated to each patient without running the risk of breaking it after prolonged use.

(All rhinologists have experienced the difficulty of obtaining a post-rhinoscopic view of many of their patients. If Dr. Wood's instrument will facilitate this, it will prove a great convenience to the profession. W. S.)

BOOK REVIEWS.

Manual of Diseases of the Ear, Including Those of the Nose and Throat in Relation to the Ear. For the Use of Students and Practitioners of Medicine. By Thomas Barr, M.D., of Glasgow, Scotland.' Second Edition, Entirely Revised and Entirely Re-written. 229 Illustrations. 8vo., pp. 415. [New York: The Macmillan Co. 1896. Price, $3.50.

Dr. Thomas Barr, of Glasgow, Scotland, has long been very favorably known to the medical profession as an earnest worker in the field of otology. He has done a good deal of original work.

In looking through this manual the evidences of thorough study and a large amount of arduous labor are manifest. The anatomy of the ear is beautifully shown, and many of the surgical operations are given by illustration in detail, making the book a valuable one to the practitioner and student.

The outline of the examinations of the ear are instructive even to those who have devoted a number of years to the practice of the diseases of this organ. First, examination by the unaided senses, then by the Eustachian catheter, then the methods of testing the hearing by different means. He gives the symptomatology, etiology and treatment as carefully..

The affections of the nose and throat in their relations to the ear are given in the next chapter. They are far more complete than any other of the English works on otology.

The anatomy and the surgery are certainly very good, and many new points are brought out, as well as many points that are very important are given properly-increased emphasis.

The title of each subject is made pleasantly and usefully prominent by black-faced type, so that in running the pages over the eye is arrested by the subjects of interest to the reader.

The publishers are to be congratulated upon their work.

While agreeing that this is a very valuable work, and that it should be found on the table of every otologist, yet there are some expressions upon anatomical, physiological and pathological points on which I hold somewhat diverse views, but time will not allow their mention at present. In a future issue I propose to take some of these points up and discuss them *seriatim*. THOMAS F. RUMBOLD.

Reference-Book of Practical Therapeutics. By various authors. Edited by Frank P. Foster, M.D. In two volumes. Volume I., pp. 652. [New York: D. Appleton & Co. 1896. Price, cloth, $5; sheep, $6; half mor., $6.50 per volume. Sold by subscription only.

The editor, Dr. Foster, has aimed to present to the profession a ready reference-book, and has succeeded admirably. The primary object of presenting a book essentially for the daily wants of the practitioner has been kept constantly in view. A quick reference can be made, not only to drugs, but other agents as well, such as baths, exercise, massage, electricity, mineral waters, serum therapy, etc. Remedies that have become obsolete or used only in semi-civilized countries have been dropped. Many of the so-called proprietary remedies have been taken up, among them antikamnia, so well known to the profession; bromidia, another St. Louis product. No mention is made of campho-phenique, although this remedy has become almost a specific in some forms of aural disease. About fourteen pages are devoted to serum therapy, and the subject has been so handled as to convey to the reader a picture of the actual state of our knowledge regarding these matters.

"In addition to a complete index of diseases, etc., which is full and specific, it has been thought best to add an alphabetical index of remedies, for the reason that they are often mentioned under other headings than their own names."

We can recommend the work as the best of its kind we have seen.

Thirty-three prominent men have assisted the editor. Volume I. is complete to *Myrtol*.

BOOKS AND PAMPHLETS RECEIVED.

Aural Herpes. By L. S. Somers, M.D. Reprint *American Medico-Surg. Bulletin*, Oct. 31, 1896.

Use of Nitrate of Silver in the Pharynx. By L. S. Somers, M.D. Reprint *Med. and Surg. Reporter*, Nov. 21, 1896.

Solutions Dobell. By Edw. Pynchon, M.D. Reprint *Annals of Ophth. and Otology*, Oct., 1896.

Conservative Treatment of Some Forms of Nasal Obstruction. By J. A. Stucky, M.D., *Louisville Medical Journal.*

Excision of the Ossicles and Membrane in Chronic Suppuration of the Middle Ear. By J. A. Stucky, M.D. Reprint *Richmond Journal of Practice.*

Aural, Nasal and Laryngeal Tuberculosis, with Special Reference to the Adirondacks as a Winter Health Resort. By Sargent F. Snow, M.D. Reprint *Buffalo Med. Journal.*

NEWS ITEMS.

Tonsil Literature.

The *Journ. of Pract. Med.*, Dec., 1896, is responsible for the statement: "during the past ten years over 600 papers have been written on the tonsils."

Resolutions Against Lodge Practice.

The physicians of Santa Clara County, California, have taken the "bull by the horn" and rid themselves of the necessity of competing with "Lodge Physicians" by adopting the following resolutions:

Whereas, Rendering professional services at a stipulated fee per capita per annum is derogatory to the dignity of the medical profession, we, the undersigned physicians and surgeons of Santa Clara County, California, enter into the following agreement:

First—We mutually, jointly, and individually pledge our word of honor not to enter into any contract or agreement, or renew any existing contract or agreement, either written, verbal or implied, to render medical or surgical services to any lodge, society, association or organization.

Second—We will not render medical or surgical services to the members of the above mentioned bodies for less compensation than we charge the general public for similar services.

Third—This agreement shall not be construed to affect existing contracts between physicians and surgeons and the above mentioned bodies.

Fourth—These pledges shall take effect and be in force for a term of three (3) years from and after May 22, 1896.

This agreement shall not apply to hospitals and purely public charitable institutions.

As every physician in the valley has subscribed to the resolutions there is no question but that they will carry their point. It would be well for the profession if other communities would follow this good example.

The New York Otological Society.

Officers have lately been elected as follows: President, Dr. Gorham Bacon; vice-president, Dr. C. J. Kipp; secretary and treasurer, Dr. H. A. Alderton; members of the committee on admissions, Dr. Edward B. Dench, Dr. M. Toeplitz, and Dr. N. J. Hepburn.

A Clinic for Defective Speech.

The Polyclinic Hospital in Philadelphia has established a department for the cure of speech defects which do not require surgical or special medical treatment. The department will take patients that need training in vocalization and articulation. The clinic is in charge of Dr. Makuen.

The American Laryngological, Rhinological, and Otological Society.

The meeting of the Southern Section of the American Laryngological, Rhinological, and Otological Society will be held in New Orleans, March 3rd and 4th, 1897. This date has been selected as it will permit visiting members to see New Orleans during the Carnival season, and will enable them to secure half-rate railroad transportation.

Candidates for membership should send their names, properly endorsed, to Dr. Robert C. Myles, secretary, 46 West Thirty-eighth street, New York, or to Dr. W. Scheppegrell, chairman Southern Section, so that they may be acted upon by the Council of the Society.

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ORIGINAL COMMUNICATIONS.

HÆMATOMA OF THE NOSE.

BY GOTTLIEB KICER, M.D., COPENHAGEN, DENMARK.

Judging by the slight notice which hæmatoma of the nasal septum receives in the various surgical manuals and in special volumes, it might, in the opinion of many, be classed as a rare affection. But, on closer consideration, it will be observed that as the nose is so frequently exposed to hard blows, and as the affection is nearly always traumatic in origin, it would seem likely to be of more frequent occurrence. Comparatively few cases, however, are found in literature.

Cloquet (*Journ. hebd. de Med.*, No. 91, T. vii., 1830) gives the first description of hæmatoma nasi; later it is mentioned by Velpeau (*Gaz. des Hopiteaux*, 1860), Mackenzie, Casabianca (*These de la Faculti de Paris*, 1872), Luc (*Bulletin de la Societié di Chir.*, 1875), etc.

Hæmatoma septi nasi occurs as the result of trauma directed to the dorsum nasi, accompanied by a tearing of the soft tissue, and bleeding between the cartilage quadrangularis and the perichondrium; the more profuse the bleeding the greater is the separation between the mucous membrane and the perichondrium. This area is distended with blood, and a broad-based, red, fluctuating tumor is formed, sometimes completely occluding the nasal canal; as the hæmorrhage frequently occurs simultaneously on both sides of the cartilaginous septum, nasal respiration may be entirely shut off. In addition, the obstruction to normal respiration, thus formed, and the increased breadth of the septum, will cause the nose, in its outer form, to become broad, thick and swollen. If nasal respiration has been impeded from the first, the patient will present himself complaining of polypi, for very frequently the hæmatoma will develop completely without reaction.

Reabsorption of the hæmatoma is noted in Cases 1, 2, 3, 4, 8, 9, 11 and 13 of the series herewith reported. This reabsorption, without pain, is, apparently, the reason that this affection is so rare in practice, for as long as the nasal respiration is free, the patient will feel but little discomfort. The cure takes place either by absorption, or, if the tissues have become purulent, by spontaneous rupture, with the evacuation of a more or less purulent fluid.

Only one case of spontaneous absorption is found in the literature of the subject. Ball (Ref. by Fischenich, *Arch. für Laryng. u. Rhin.*, Vol. 2, 1894; *British Med. Journ.*, 1890) cites the case of a boy, seven years old, with a bilateral hæmatoma, which was reduced by rest and steam inhalation. However, the citation of only one case is no evidence that spontaneous absorption is a rarity, The objection may be raised that the absorption power of the mucous membrane is considerably retarded by the deposition of fibrin on the surfaces of the hæmatoma; this may, indeed, retard the absorption process, but not destroy this power, as the mucous membrane is richly supplied with blood-vessels which function as absorption agents.

The important role which trauma plays in the etiology of hæmatoma has already been remarked; the location and direction of the blow upon the nose should also be taken into consideration. If the lateral areas of the nose are injured, the elastic septal cartilage will serve as a rebounding cushion; if the blow is received on the dorsum of the nose, the result is different, owing to the structure of this portion of the nose. Zukerkandl (*Normale und Pathologische Anatomie der Nasenhöhle*, 1892, pp. 20 to 41) states that the articulation between the lamina perpendicularis ethmoid with the os nasi varies in extent. In 49 per cent. it extends to the middle of the dorsum; in 38 per cent. it advances further downwards; in 3 per cent. there is no connection between the lamina and the nasal bones, so that it is supported only by the spina nasalis. These anatomical variations are of importance in the consideration of injuries to the osseous part of the dorsum nasalis, for the further downward the articulation reaches the more protection will be afforded the cartilago quadrangularis. Besides, Zukerkandl has shown that even slight lesions of the nasal bones may occasion bending, luxation or fracture of the cartilago quadrangularis; the thought then naturally suggests itself: Has the hæmatoma, which has all the etiological factors, arisen as a consequence of these alterations?

The force of the blow may extend over the entire lamina quadrangularis, and cause forcible contact with the lateral nasal walls, thus causing a tear of the web on the convex surface of the lamina quadrangularis, and the formation of a one-sided hæmatoma. It may not be thought possible that such a slight bending of the septum can be followed by a hemorrhage, but as the cartilaginous septum is somewhat pliable and elastic, even a strong bending just after the trauma will be partly straightened, thus making it difficult to decide whether the existing slight curvature is normal or pathological.

Strazza (*Ann. des mal. de l' Oreille*, etc., 1888) cites the case of a boy, 4 years of age, who received a blow on the nose; immediately following the injury a slight bleeding ensued; not until a fortnight later was the left nostril filled with a red, distended tumor; the passage was completely free on the right side; following incision, a serous, somewhat red fluid exuded.

In Fischenich's case, previously cited, a man of 28 years received a blow on the nose; the next day the left nostril was quite filled up, and after four weeks the right nostril also was filled up. By incision a serous, reddish fluid was evacuated; the septum was perforated in its anterior third; after eight days the perforation was closed, and patient discharged cured. This was a bilateral hæmatoma, but still primarily only one-sided; probably the pressure of the fluid on the denuded cartilage caused the perforation.

Whenever a perforation of the cartilaginous septum occurs in this class of cases it is always found in the anterior third; here the cartilage is very thin, and as it is readily bereft of its source of nutrition (mucous membrane), the power of resistance in this area is very slight.

Case 1 may also serve as an illustration of the development of a one-sided hæmatoma, the result of trauma.

Hæmatoma naris is, as a rule, bilateral. Hyrtl (*Topogragh. Atlas*, Vienna, 1860) states that a fracture of the cart. quadr. has never been seen, but since Zukerkandl has been engaged in the researches of this subject, scarcely a week passes without his having an opportunity for observing at least one case.

M. Kaeppe (*De Hæmatom Cartil. Nasi.*, Halis, 1839; ref. by Zukerdandl) was the first to diagnose fracture with extravasation of blood coagula. At the same time Bockdalek observed a double fracture, accompanying fracture of the anterior part of the os nasi. We are justified in the conclusion, based on Zukerkandl's observations, that the bilateral hæmatoma following such fracture is more frequent than is usually supposed; indeed, the fracture can involve any part of the cartilaginous septum; the longitudinal fracture is the most common form. The fracture line extends antero-posteriorly, so that an upper and lower fragment is formed; in transverse fracture the septum is divided into anterior and posterior fragments. If no displacement follows such fracture, it may even, with most careful inspection, and probing be easily overlooked; this is applicable to examinations made immediately after the injury; in three weeks after the injury the most careful investigation will rarely give us any information. This is probably the reason that more recent literature furnishes us with only two well-established cases. One by Ricei, (*Ann. des Mal. de l'Oreille*, etc., 1891) that of a man 28 years old, received a blow on nose; short time after both nostrils became impermeable; lancinating pain in septum; headache and fever; accompanying these symptoms a large swelling of the nose and adjacent parts developed; not until the evacuation of a large quantity of pus was a fracture of the cartilag. quadrang. determined.

A similar case is reported by Pean (*Revue Medicale Francaise*, 1896; ref. by Fishenich).

The third form of trauma, involving the septum, is the one followed by luxation; this always occurs between the vomer and the cartilaginous septum. the blow usually forces the cart. septum out of its plane; sometimes it becomes loosened at its upper attachment and overrides the vomer; occasionally the cart. sept. is pressed to the outer wall of the cavum nasi, thus completely blocking the passage. In these luxations a depression of the nose will be quickly formed, as the cartilaginous part of the dorsum nasi will partially collapse.

There is some difference of opinion as to the possibility of dislocation and fracture existing at the same time. Zukerkandl states that they almost always accompany each other; Daniel Moliere, on the contrary, in his series of experiments on cadavers, has shown (*Ann. des Mal. de l'Orielle*, etc., 1890; ref. by Gougenheim) that as a result of a slight trauma of the dorsum nasi the displacement of the cartilage is readjusted, and he has never observed a fracture concurrently. These results have been further verified by Chevallel in his thesis (*Traitement des Fractures du Nez par l'Apperiel Platre*, Lyons, 1889).

Gougenheim reports two cases, where luxation was suspected, but an absolute diagnosis was not made either in these, or any other reported cases. In the one case reported, a 3-year-old child had a fall; a short time after, a depression of the cartilaginous portion of the dorsum nasi was noted, and at the same time a red, tense tumor developed on either side of the anterior area of the septum; this was incised, and a quantity of pus evacuated; neither perforation nor fracture could be found. In the other case, the etiology was indefinite; Gougenheim believes it to have been traumatic; here also the depression of the dorsum nasi was noted before the bilateral hæmatoma was opened; the septum appeared smooth, and no fracture could be found.

We have now demonstrated how trauma affects the septum, and the hæmatoma is produced, but that the hæmatoma can occur spontaneously, like the othæmatoma, there is no doubt, as the same conditions are present here as well as in the external ear.

Two such cases are reported by Mackenzie (*Diseases of the Throat and Nose*, Vol. I., p. 438); one by Luc (*Bull. de la Societe de Chir.*, 1895), and one by Péan (*Nélaton-Pathologie Chirurgicale*, Vol. 3, p. 740).

The contents of the hæmatoma may vary; most frequently a suppuration will follow shortly after the tumor develops, so that when the case is presented for treatment a more or less developed abscess may be found. This may mislead us in the diagnosis, but the history of the case and the traumatic etiology confirms these conclusions of hæmatoma.

In all the cases collected the fluid evacuated was either clear pus, spontaneously discharged, as in cases 3 and 12, or exuded after incision; or sero-pus, as in cases 7 and 9.

The healing of the hæmatoma by reabsorption has already been referred to; another issue in these conditions is the formation of cysts; the extravasated, blood-colored contents gradually assumes a distinctly serous character. Strazza's case would more nearly resemble this form, rather than that of perichondritis, as, two weeks following the trauma, there was an evacuation of serous, lightly-reddish fluid.

Hæmatoma is, as a rule, bilateral, symmetrically placed on either side of the anterior area of the septum; as the cartilage is very thin in this area, and the mucous membrane loose and delicate, the resistance offered to the pressure of the tumor is slight, and a perforation of the septum at this point is easily produced.

Jurasz (*Die Krankheiten der Oberen Luftwege*, 1891) is of the opinion that this necrosis occurs very quickly; that several hours after the trauma suffice; but of his own six cases there are two where respectively four days and six weeks have passed without any perforation having arisen.

In the following series of cases reported, incision was made in eight, and only one case (No. 9) was found with perforation; in all of these cases, bilateral, symmetrically-situated hæmatomae occurred. The best opportunities were here presented for perforation to occur.

Following perforation, the two tumors gradually coalesce, and we should be able to make the diagnosis of perforation before the incision.

Mackenzie asserts that a perforation formed as the result of hæmatoma will be permanent; yet this assertion he endeavors to prove by only one case (M. Thorner, Hæmatoma of the Septum narium, *Medical News*, 1889).

In Jurasz's four cases and in Fishenich's case, the perforations were closed in the course of three weeks. The perforation is said to occasionally give rise to a deformity of the nose. In case 7 note the collapse of the cartilaginous septum nasi. Jurasz cites the following case: Male, æt. 23 years, received a blow on the nose; incision of the hæmatoma was made five weeks later; a considerable necrosis of the cartilaginous septum and collapse of the dorsum nosi was found; ten days later the perforation had healed, the septum appeared completely normal, excepting some slight curvature.

Zaufal (*Revue Mensuelle de laryng.*, etc., 1893) also cites a similar case of perforation and accompanying collapse of dorsum nasi, followed by healing of perforation and restoration of the parts to normal shape.

It is not indicated, therefore, that every perforation must necessarily be followed by deformity; it depends, to some extent, on the size of the perforation. If the perforation is surrounded by a ring of cartilage, there will naturally be no collapse of the adjacent parts; occasionally we find perforations of the cartilaginous septum, the result of syphilis, tuberculosis, abscess, etc., where the outer form of the nose is perfectly preserved. If, however, the perforation is large, and the ring of cartilage incomplete superiorly or inferiorly, a collapse and deformity of the nasal bridge will easily occur.

The diagnosis may offer some difficulties; but if the history of the case is good; if there has been a trauma, followed by a more or less profuse hæmorrhage; if, later, the patient notices that the nose grows broader, and the nasal respiration eventually is shut off, this series of symptoms points to hæmatoma. The development of the broad-based, red, fluctuating tumor, located on either side of the cartilaginous septum, and filling the apertura nasium, is often free of pain. If there is still some doubt as to the nature of the tumor—whether abscess, hæmatoma, or cyst—an exploratory puncture will decide. This test puncture, however, is only serviceable in the early stages of the tumor development, for later a differential diagnosis is, so to say, impossible, as the contents of the hæmatoma may easily change to a purulent or, in rare cases, to a serous character. The treatment consists in immediately opening the hæmatoma with a large linear incision to evacuate the contents, and avoid necrosis and perforation. If it is a bilateral hæmatoma, both sides should be incised. Sometimes a simple evacuation is sufficient; but if an abscess has formed, a thorough irrigation, with antiseptic solution and tamponnage of iodoform gauze, is urged; only very rarely are we forced to the radical measure, as recommended by Schäffer (*Therapeut Monatschr.*, 1890), of excising an elliptical piece of the mucous membrane.

I take the liberty of adding the following cases to the literature of this subject:

CASE 1. (*The Polyklinik*, 1891).—Thorwald R., æt. 27 years, received blow on nose; followed by severe hæmorrhage; several recurrences of bleeding; outer appearance of nose broad and sore; left side of cartilaginous septum swollen and fluctuating; mucous membrane dry and scaly; left naris partially occluded.

CASE 2. (*The Polyklinik*, 1891.)—Richard N., æt. 7 years, received blow on nose; complained of difficulty of nasal respiration; both nostrils filled with dark-red, tense, broad-based tumors, extending to the apertura narium. Incision made; pus evacuated, tamponnage with iodoform gauze.

CASE 3. (*The Polyklinik*, 1891).—Hans H., æt. 4 years, received blow on the nose; 8 days later complained of difficulty in nasal respiration; septum swollen; right naris filled with pus; this being cleared, the posterior area of the cartilaginous septum was found much infiltrated, and pus oozing from a single point. Warm douche.

CASE 4. (*The Polyklinik*, 1891).—Ludwig S., æt. 64 years, fell and struck his nose. In a fortnight redness and swelling of the nose, with difficulty in nasal respiration, was noted; septum much swollen in breadth; two broad-based, red, tense and fluctuating tumors, located on either side, and projecting from the cartilago quadrangularis and filling both nostrils. There was not only swelling of the nose, but also œdema of the cheek and eyelids. Incision, with evacuation of large quantity of pus. The fourth day after the incision, the pus had all been discharged; soreness and swelling had disappeared.

CASE 5. (*The Polyklinik*, 1892).—Carl F., æt. 18 years, received trauma on the nose; two days later the nose swelled up; occasional nasal hæmorrhage; there was febrile reaction, with sweating, temperature and quick pulse; nose red and intensely swollen; nasal respiration completely obstructed; the anterior area of the cart. septum was the seat of two symmetrical, hard, tense, and red tumors; incision with evacuation of pus; after the lapse of one week the infiltration of the septum had almost passed away.

Case 6. (*The Polyklinik*, 1892).—Meta H., æt. 26 years, received blow on nose; eight days later had several prolonged chills; nasal respiration was obstructed; on both sides of cartilaginous septum broad-based, red, tense, fluctuating tumors were seen; incision and evacuation of much pus from both sides.

Case 7. (*The Polyklinik*).—Carl V., æt. 14 years, fell and struck his nose; nasal respiration almost abolished; intense pain, and several sleepless nights; patient had fever, and was confined to bed; nose almost closed by soft, elastic, symmetrical tumors, attached to cart. septum, and covered with natural mucous membrane; interior area of nose increased in breadth; otherwise no deformity observed; incision, with escape of a partly serous, partly purulent fluid; probing reveals presence of a perforation of the septum; tampon by iodoform gauze; 9 days later the swelling had disappeared; saddle-nose deformity seems probable.

Case 8. (*Dr. Schmiegelow's Private Clinic*, 1894).—Miss H. V., 18 years; while riding, was struck by a thick branch across the nose; the blow was severe and painful; no hæmorrhage; during several succeeding days, nasal respiration was clear; nose soon filled up completely; tension over nasal dorsum; nasal intonation while speaking; at juncture of cartilaginous with bony septum, an infiltration and swelling was seen and felt; tender on pressure; nasal respiration at this stage was abolished; no indication of fracture at the root of the nose; later the nose was filled by broad-based, symmetric tumors, covered by dark-red, swollen mucous membrane; tense, elastic fluctuation was noted; both tumors were incised, and considerable thick pus was evacuated; the cartilaginous septum was denuded on both sides; the abscess cavities were thoroughly tamponed with iodoform gauze, renewed daily; three weeks after the abscesses had been incised septum was normal, and no nasal deformity.

Case 9. (*The Kommune Hospital*, 1887).— ——, male, æt. 19 years, was struck a blow on the nose by a clenched fist; immediately followed by severe epistaxis; three days later patient noticed that both nostrils were filled up, and the nose became broader; on each side of septum, protruding from the apertura nasi, were tumors the size of a nut, irregular in surface, reddish, and somewhat elastic to the touch; on incision, a rather thick tumor wall was encountered, and sero-purulent contents on each side of the septum; several days after incision and evacuation hæmatoma had again filled; extensive galvano-cautery puncture was made, resulting in a cure.

CASE 10. (*The Kommune Hospital*, 1889).—Jeus N., æt. 21 years, fell on the ice and struck his face; in trying to rise, he fell again, striking on the occiput; he was not unconscious; was confined to his bed; restless, pupils unequal, slight pulse; temperature 38.9° C., with fall and rise at one time to 41° C.; rhinoscopic examination reveals diffuse, bright-red mucous membrane, partly covered with flaky, purulent excretion; the cartilaginous septum considerably swollen, so that both sides of nose were almost closed, and thus examination of the deeper structure was impossible.

CASE 11. (*The Kommune Hospital*, 1888).—Peter T., æt. 15 years; lower area of nose was suddenly swollen, without apparent cause; red and sore; only scanty air-passage, and very limited nasal respiration; exterior of nose thick and swollen; septum considerably swollen, and fluctuating tumors on both sides; both nostrils are filled with abundant inspisated mucous. Rinsing with salt water.

CASE 12. (*The Kommune Hospital*).—Richard N., æt. 7 years, received a blow on the nose; in the following two weeks a perichondritis sept. nasi developed; patient being anæsthetised with ethyl-bromide; considerable pus was evacuated; occasional pain was complained of; the nasal air-passage was completely occluded; two days after first incision another was made on both sides of septum, and quantity of pus exuded; three days later the abscess had been emptied; septum then resumed normal size and condition.

CASE 13. (*The Kommune Hospital*, 1892).—Pernille P., æt. 37 years, received blow on nose; later large bilateral tumors developed on anterior septal area; dorsum nasi much thickened; there was spontaneous perforation of the septum, with discharge of pus from left side of nose. Warm douche.

Of the cases reported, five, of the Kommune hospital, occurred in the last eight years; seven, of the Polyklinik, in the last six years—in all, trauma was the cause, except in case 11; trauma was sometimes accompanied by hæmorrhage (cases 1 and 9), or the bleeding appeared at later stages of the development of the hæmatoma (cases 1 and 5); development of the tumor without pain occurred in eight cases; in the eleven cases in which a complete diagnosis was possible, the result was an abscess-formation with sero-purulent (cases 7 and 9), or clear pus contents; eight cases required incision; in three there was spontaneous perforation; with one exception (case 1) the hæmatoma was bilateral, symmetrically located on either side of the cartilago quadrangularis; perforation of the septum was seen only in case 7; in cases 7 and 12 there followed deformity of the dorsum nasi.

The question may be raised: Are these reported cases examples of true hæmatoma? Pus or sero-purulent fluid, and not blood, was evacuated; hæmatoma in which there is an exudation of blood or liquor sanguinis, is very rare; Fishenich mentions one case in which there was an evacuation of fluid blood from the tumor three days after the trauma; hæmatoma rarely comes under observation and treatment in the initial stages of its development, but usually after the lapse of eight to fourteen days, and then the contents have had opportunity of undergoing purulent change.

Another point worthy of consideration is that when hæmorrhage occurs primarily, there is a distension of the blood-sac covered by mucous membrane, which prevents nasal respiration, and in the cases reported this usually occurred within one week after the trauma. If there is suppuration, with accompanying œdema, the perichondrium will be swollen, more pliable, so that it may be easily separated from the cartilage; the mucous membrane will also participate in this inflammatory reaction, and nasal respiration will be occluded.

THE PURULENT NASAL CATARRH OF ADOLESCENTS.

BY J. C. MULHALL, M.D., ST. LOUIS, MO.

In looking over my case books, I have found notes of cases whose symptoms correspond so closely that they perhaps merit the distinction of a title to themselves, and I will beg the liberty of suggesting the above, since the two most striking features are a chronic bilateral discharge of pus, occurring shortly after the advent of puberty.

I have records of eleven cases—nine of whom were females and two males; an explanation of which is readily afforded when one contemplates the etiology—which I may briefly describe to consist in excessive mental work, plus insufficient bodily exercise, about the period of puberty. This function is a vastly more trying ordeal to the girl than to the boy. The physical education of the two has been, as a rule, enormously in favor of the boy. He, in unrestrained clothing, romps his way to manhood; she, with her trammeling skirts, most probably with high-heeled shoes and a corset, minces her way to womanhood. Her physical resistance will not compare with his, and yet, at corresponding ages, she, by natural inclination and special urging, is further advanced in her books than he. In addition, the boy usually escapes what she seldom does, the study of the piano. Seven out of the nine girls practiced at the piano from one to three hours per day—time employed by the boy in acquiring health by playing some game in the open air of the back yard. With menstruation comes more physical decorum; less desire to run and play. Puberty in the boy does not lessen his desire for out-of-door sports.

In most people an ordinary cold in the head has four stages—turgescence with dryness, then limpid secretion, then white viscid secretion, and lastly yellow discharge. Their duration varies according to many different factors, local or constitutional, but recovery usually ensues without treatment. Now, in the class of cases of which I write, *the indefinite prolongation of the last stage* occurs from constitutional debility, produced by the causes mentioned. This is the simple explanation. It has nothing to do with diathesis, with intra-nasal deformity, nor accessory sinus disease. The scrofulous diathesis may, of course, be an aggravating factor, and a deformed septum complicates the evil; but it is not necessary to consider either on the etiology or cure of the disorder. Both may be very important factors in the tendency of the adolescent to taking the cold, but the causes I have mentioned are the ones to be considered in explaining and curing the prolonged suppuration. This may last many months. Should this cold have been taken shortly before the annual vacation, the relief from study, from badly-ventilated school-room, the trip to the seaside or country (nearly all my cases have occurred in the wealthier classes), will cause the suppuration to cease. Should, however, the cold have been taken at the middle of the school term, the suppuration may continue until the end of the term, and even through the vacation, unless more radical measures are adopted than mere relief from study and the adoption of open-air life.

In most of my cases menstruation has been irregular, or ceased altogether, and anæmia has been pronounced. There has been lassitude, mental and physical, headache, constipation, loss of appetite, deppression of spirits, occasional fever, symptoms referable to the original debility, plus the recurrence of prolonged nasal suppuration; this fever is septic, for when we come to examine the nose we find that drainage may be much interfered with by the swollen inferior turbinates, so much so that the patient is unable to blow out the pus. In addition, much of it is swallowed during the night, interfering with morning appetite. The nose is commonly completely closed in the recumbent position, mouth breathing is compulsory, and the patient awakes with dry, coated tongue, nauseated, unrefreshed. In this condition she forces down the cup of coffee, and unfed, unslept, ptomaine-bound, she goes to the heavy air of the school-room and begins the daily grind.

These swollen inferior turbinates, even after cleansing and cocainization, may touch the septum, but the apparent hypertrophy is spurious, the motor-activity of the erectile tissue is gone; there exists a vaso-motor paralysis. I have known of cases where surgical means have been adopted against this apparent hypertrophy, manifestly unscientific, and but adding to the misery of the patient. The color of the membrane is not uniform; we find red, pale rose and white patches. The middle turbinates are also sodden, obliterating the olfactory fissure, and sometimes the hiatus semilunaris, but in no case have I found infection of an accessory sinus, though it is easy to understand how easily this might occur. In two subjects I found on the hiatus very small budding polypi, which disappeared without surgical attack. Partial or complete anosmia existed in all cases.

Intra-nasal treatment may be summed up in one word—cleanliness.

This cannot be accomplished with a spray—a method of cleansing the nose I have long ceased to adopt in any class of cases. The patient should be provided with a rubber bulb, attached to which is rubber tubing one-fourth of an inch in diameter; the same precautions are observed as in using a nasal douche. The detergent is one which I use in all nasal diseases requiring such, namely one part each of bicarbonate of soda and borax, and four parts of salt. The patient should wash out the nose three times daily, or as demanded. The addition of an antiseptic is of no value. Indeed, I know of no disease of the nasal mucosa proper where I have found antiseptics of any use, not excepting syphilis or atrophic catarrh.

The real treatment is constitutional, and without it no improvement will be manifest; above all the patient must be taken away from her books and piano, absolutely. Careful selection of diet, cold water frictions, deep breathing, gentle open air walking, twelve hours each day in bed in a sunny, well-ventilated room, abdominal massage, gentle Sweedish movements to the joints, a daily evacuation of the bowels, Blaud's pill or Gudes' Pepto-Mangan, compose the measures which, when well adapted to each case, skillfully and faithfully performed, I have found to bring rapid improvement and eventual cure—an event which, in my experience, has occurred within from four to eight weeks. I may add that the use of strychnia and of the faradic current, one pole at the occiput, the other over the nose and cervical sympathetic, have been of signal benefit. I have often seen the turgescent turbinate tissue undergo considerable diminution of volume after five minutes' use of galvanism thus employed, so that lavage could be easily accomplished.

The details of hydrotherapy, of massage, of deep breathing, of Sweedish movements, of the rest cure, of the exercise cure, should be just as familiar to those engaged in nose and throat work as they presumably are to the general practitioner, and I shall not, therefore, here presume to describe the methods used on this particular class of cases.

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THE RELATION OF AFFECTIONS OF THE UPPER AIR PASSAGES TO DISEASES OF THE EAR.*

BY FRANK S. MILBURY, M.D., BROOKLYN, N. Y.

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Are we doing all possible for the prevention and relief of ear troubles?

In the preparation of this article I have looked through a great deal of literature, and have been surprised to find that while most authors agree in saying middle-ear affections are caused by an extension from the naso-pharynx, very little is said about the now recognized fact that post-nasal catarrh is almost entirely due to an abnormality of the anterior nares. Very few of the older authorities say anything, or but little, about the affections of the nasal, post-nasal or oro-pharynx in regard to the ear; and until within very recent years our information upon the subject has been meager indeed; but now modern writers are investigating and placing the facts before the profession, and we are thus enabled to deal with this important organ in a more scientific way than even five years ago. I am amazed, however, to observe how few of the old and wonderful searchers after truth, and ready writers, should hardly touch upon any of the accessory cavities to the naso-pharynx, whereas many of the younger men have gone into the matter in a thorough and lucid manner. In the recent works of Gruber and Politzer considerable light is thrown out, but still chiefly in reference to the rhino-pharynx.

Since the able article, about twenty-three years ago, by Meyer, of Copenhagen, who was the first to give to the medical world an exhaustive opinion upon adenoids in the naso-pharynx and their results, it appears to me that nearly all information pertaining thereto has been elucidated. Still there is ever room for further thought and research. I remember that during my long residence in Vienna and other European cities, studying under Politzer, Gruber, Urbantschitsch, Bing, Hartmann and others, and in this country as well, but scant attention was given to the nose or naso-pharynx, they taking care of themselves, while almost exclusive attention was given directly to the ear. The results have shown what a sad and, in many cases, complete failure such treatment has proven, but now the older men are falling into line, and our results are far superior to former ones.

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At all ages, and in all cases of deafness or other ear affections that come under my care, I examine most carefully the nose, naso-pharynx, oro-pharynx and ears, and only on such scrutiny can we base our conclusions and prognosis.

Beginning with the nose we may find septal spurs, deflected septum, and hypertrophies of the inferior and middle turbinated bodies, causing partial or almost complete stenosis of the nasal passages, with little or no pharyngeal complication; and yet deafness often prevails—why is it?

On looking into the anterior nares we may find the inferior turbinates so large as to wholly occlude them and prevent further inspection. This hyperplasia is caused by venous engorgement of the tissues covering the turbinated bodies, and is undoubtedly brought about by frequent attacks of acute rhinitis, caused, in a measure, by irritants, as septal spurs, deviated septum, etc. At first the mucous membrane returns to its normal condition, but the repetition of these attacks will eventually end in a fibrous tissue remaining permanently hypertrophied. Patients so affected complain of frequent colds in the head, difficulty in breathing, asthma and frequently impaired hearing during such stenosis, becoming gradually more and more so and increasing with repeated attacks, and remaining permanent if the nares become more or less constantly occluded. Even if the nose is successfully treated, and free respiration restored, and parts physiologically normal, the hearing may not be improved if of long standing. Still, there are many exceptions. The ear troubles so caused are chiefly catarrh of the middle ear; but, of course, there are very many other forms of ear disease caused by the nasal occlusion. We often find interference with ventilation through the Eustachian tube, but in many such cases their patency is normal; yet, there is deafness, and, according to Dench and others, is produced by the turgescence of the turbinated bodies interfering with the venous return current from the labyrinth, causing labyrinthine congestion. We know that this is purely theoretical, and still no more plausible view has been advanced. Somewhat proving this is the fact that intranasal surgery often improves hearing, tinnitus, etc., in all conditions affected by the nasal passages.

Another serious condition of the nose affecting the ears is atrophic rhinitis and naso-pharyngeal catarrh—a disease of early life rarely existing under five years of age, and becoming worse as the patient grows older. There is a diversity of opinion among the best authorities as to its cause, and I will not discuss it here. Around the orifices of the Eustachian tube, we often find a residue acting as an irritant and setting up frequent inflammations, which finally end in a narrowing of the tube and rarefaction of the air in the middle ear, or, on the other hand, the tube may be too open, and in time cause a flacidity of the tympanic membrane, etc. Hypertrophy of lingual and faucial tonsils, elongated uvula and adenoids, are all responsible for much of the trouble cited above, and have been copiously written about by nearly all authors on the ear. The pharyngeal tonsil is formed of adenoid tissue, and not only becomes frequently enlarged through chronic inflammation of the parts, but by the formation of new adenoid tissue the whole choanæ and vault may become completely filled, pressing into the nares, Eustachian tubes and pushing the soft palate forward. They are rarely found on the protuberances around the Eustachian tubes or on the side walls of the pharynx.

There seems, in most cases, a connection between adenoids and enlarged faucial tonsils, and, occasionally, even the adenoid tissue at base of tongue. Sajous states that there may be quite extensive adenoid vegetations without the Eustachian tubes being involved; but, in my opinion, in every case of adenoids the tubes are more or less implicated. In this connection, the tissues of the vault often become œdematous, which probably extends into the Eustachian tubes, causing aural disturbances. Sometimes extensive adhesions between adenoids and Eustachian tubes are found, presumably caused by the frequent inflammatory action of the pharynx, in acute coryzas, pharyngitis, etc. In my opinion, every child at a very early age should be carefully examined for adenoids, and, if found, at once removed, and thereby much needless suffering would be saved to humanity. They act upon the ear in different ways, the principal one being the blocking up of the Eustachian orifices, causing rarefaction of the air in the middle ear, which will eventually result in a retraction of the membrana tympani. A chronic congestion and hyper-secretion, if long continued, will end in adhesions and ankylosis of the ossicles, and deafness and tinnitus.

It is a mooted question whether the adenoids press on the pharyngeal openings of the tubes, or if their interference to the muscles of deglutition causes the trouble by producing an incomplete opening of the tubes. In either case we know that in diphtheria, measles, scarlet fever, whooping-cough, mumps, teething, tuberculosis, typhoid, etc., the septic secretions are thrown into the middle ear, and, by their retention, the destructive process begins. To whatever cause nasal or pharyngeal stenosis may be due, drainage of these parts is interfered with, and hence the middle ear difficulties. Blowing the nose forcibly in nasal obstruction is liable to force secretions into the ear.

A few years ago, while sojourning in Greece, I called upon several of the leading physicians of different cities for the purpose of investigating nasal and pharyngeal diseases, and, to my surprise, found that such affections are almost unknown, and, as a consequence, but little ear disease prevails. I am fully convinced that if there were no abnormality of the upper air tract we would have but little ear disturbance. I shall not burden you with statistics, but merely cite a few illustrative cases.

Case I.—November 30, 1893, Fred. W., aged 31, consulted me for relief of nasal catarrh. He is a strong and fully developed man, active in business and brilliant, socially. Inspection showed great hypertrophy of both inferior and middle turbinates, sept-spur, slight rhino-pharyngitis and elongated uvula. Incidentally, in eliciting the history, I found that he had had scarlet fever and diphtheria in early childhood, and since discharge from both ears, and he stated that now his hearing is very imperfect, with loud roaring in head. When I suggested treatment, he said that he did not come to me for that, but his nose and throat; that he had been in the hands of several good men for his ears, but with no relief.

I find that both tympani are intact, but greatly retracted, the left mostly with short processes very prominent. Bone conduction with tuning-fork better in left than in A. C., and the reverse in right. Hearing distance with watch: right 18—40, left 1—40. I treated his nose, removing spurs, reducing turbinates and excised uvula.

On April 7, 1894, discharged him in fairly good condition, and much to my surprise his hearing wonderfully improved, although I had in no way done anything directly to his ears. April 7: H. D. W. R. 38—40, L. 19—40.

Case II.—September 14th, 1895, Mr. John H., age 22, student in mechanical engineering, consulted me in regard to deafness and noises in the head, difficulty in breathing through nose. Has had impaired hearing since about ten years old. Has had the ordinary diseases of childhood, could not trace any connection between them and his deafness. Tympani greatly retracted, and hearing distance with watch in right ear 1—40, left 6—40. Is not robust. When about ten years of age was hit forcibly on nose with base-ball, crushing the bridge of the nose, flattening it down considerably. On inspection of the inner part of that organ I found the bony septum fractured, one portion pressing to the right and the other to the left, causing almost complete stenosis. I concluded that the only thing to do was to break it (the septum) up and put it in its normal position. Consequently, on September 24th, with the assistance of two physicians, he was anæsthetized, and by Roe's and other methods the septum was brought into proper position, and supported on each side. By the operation the nasal bridge was appreciably elevated and made a much more æsthetic nose than the young man formerly possessed. He soon recovered from the operation, and as soon as the dressing could be left out of the nose, hearing was found to improve rapidly, and by December 1, 1895, H. D. R. watch was 21—40, L. 5—40, and up to this time I had not touched the ears. He now returned to college in a distant city, and thus passed out of my hands, and I did not see him again until about the middle of June this year, when his hearing R. is 38—40, L. 14—40. I again took him in charge, removing some septal ledges and directed attention to the ears, further increasing the hearing power.

CASE III.—December 20th, 1895, Charles B., 9 years of age, referred to me by family physician on account of deafness. Examination shows much turgescence of turbinated bodies, causing considerable occlusion of nares. Vault almost completely filled with adenoids. Takes cold easily and has frequent coryzas. General condition bad. Is a decided mouth breather.

Hearing distance: Right ear, with watch, 10—40; left, 1—30.

Performed adenotomy, and there was immediate improvement in hearing and subsidence of the turgescent turbinates. On July 1st of this year he could hear my testing watch at 60 inches in both ears, which is 20 inches more than I usually register. The lad had no other treatment, except acting on my advice to be out in the cold bracing atmosphere as much as possibible. His colds disappeared as if by magic.

CASE IV.—John R., sent in by family physician; 10 years old; has O. M. purulenta in both ears; very offensive; perforations in lower third. Ossicles in normal position; H. D. R. (watch) C—40; L. C—40. Pharyngeal vault filled with adenoids; adenotomy and tonsillotomy. In six weeks discharge has completely stopped, and has not returned. Hearing in both ears now 30—40.

CASE V.—Annie S., 7 years old, came to me through the family physician. Found an extremely purulent discharge from left nostril, and with occlusion of both; also O. M. purulenta, right and left. The discharge from nose had existed since she was two years old. Had never had any of the diseases of childhood. Symptoms indicated extensive adenoids, but examination revealed a normal oro-pharynx and no adenoids, and only a slight naso-pharyngitis. The child was so sensitive that it was almost impossible to determine anything, but the sound struck something that appeared like necrosed bone. A few days later anæsthetized and removed a large, rough, serrated shoe-button. The sound passing over the uneven surface is what deceived me in thinking it might be necrosis. The button had shoved the septum over to the right. I straightened it with Adams' forceps. In a very short time she was in excellent physical condition; nose well; discharge from ears had ceased; hearing good; but small perforation in tympani.

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THE IMPORTANCE OF URINALYSIS TO THE LARYNGOLOGIST.

BY HENRY J. MULFORD, M.D.

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I.

With the laryngologist urinalysis is not a matter of routine. His practice has to do mainly with consultations and operations. The cases having been referred to him, the specialist presumes (because usually he is the court of last appeal) that all necessary examinations have been made. He is asked to look at the case from his point of view, for the reason that his knowledge being finely specialized he is better able to trace a connection between effect and cause in certain phenomena as manifested within his domain.

Can it be said, then, that urinary examinations *are* of value to the laryngologist? In some conditions urinalysis will give no help in regard to the local lesion within the nose or throat. It would be of no value in syphilis or tuberculosis or tumors of the upper respiratory tract. But in some other conditions it would be of very great service toward settling an etiology, and hence the treatment. Certain conditions within the nose and throat are manifestations of a primary systemic disarrangement; other manifestations, again, are secondary to disturbance within some special internal organ. In the following classes of cases urinalysis is always of value: those in whom rheumatism is suspected; where there is frequent nose-bleed; always in obscure cough; in profuse catarrh of nose or throat; where the individual is subject to frequent "colds;" in hay-fever; and in children presenting enlarged tonsils and nasal occlusion. It is my practice in the above cases to always make an examination of the urine. In some obstinate and obscure cases the blood is also examined.

Urinalysis is of great importance to the laryngologist. It is, in fact, of great importance to any specialist; for the specialist must be guided by the rule, applicable as well to him as to any medical man, that whatever is for his patient's good *must* be done. And although the specialist is often merely a consultant and operator, he finds that no urinalysis has been made in the case presented. He therefore is bound to make such analysis that a perfect understanding of the patient and of the condition may be had. No surgeon would operate without first having made an urinalysis. This procedure is equally important in most of the operative procedures of the laryngologist.

It is obvious then that urinalysis *is* important. Let me emphasize that importance by quoting a number of cases.

II.

Case A.—Woman, aged 40 years. Referred for examination because of following history: Has almost constant nasal occlusion, especially at night; sleep much disturbed by bad dreams; awakens suddenly with attacks of "strangling;" not much discharge from nose or throat. Intranasal examination reveals the erectile tissue of both sides as very greatly relaxed, almost filling nares; the tissues showing a heavy, "waterlogged" appearance. Inspection of the pharynx shows soft palate, uvula and pillars much thickened and anæmic, with the same heavy appearance. At first glance I thought the patient was rheumatic, and had had perhaps a recent attack. Upon close questionining she denied all history of rheumatism. I then suggested an urinalysis. This she said had been made a number of times by the physician who had sent her to me. Upon communicating with him the urine was reported as all right. Having covered all points, as I then thought, cauterization of the turbinates was advised. Both inferior turbinates were accordingly cauterized with the platinum points, a proper interval being allowed between cauterizations. After the last operation the patient disappeared for two months, although she had been told to report in a few days. When asked the reason of the delay, the reply was: "I have been in bed with an attack of rheumatism." I believe now that a proper urinalysis had not been made in her case, or else it had been made too early to be of value at the time she came to me. I believe that had a proper examination been made the rheumatism might have been averted, and the œdema of the soft tissues of the nose and throat cleared by proper attention to the kidneys.

Case B.—Man, aged 60 years. A hard drinker; had been drinking heavily just previous to time seen. No urinalysis made, but urine was noted as being scanty, very highly colored, with a "brick-dust" deposit on standing. The soft tissues of the man's nose and throat presented much the same appearance as those in Case A, with the difference that here the membranes had decided color, and there was soreness of the throat. Treatment given consisted of calomel and a diuretic. Under this the urine became normal in a few days, and as the urine cleared the throat became normal also.

CASE C. — Woman, aged 35 years. Referred for treatment for cough. Sleep is disturbed by coughing, with at times an asthmatic condition; and there is nasal occlusion at same time. During past year patient has been under severe physical and mental strain. The intra-nasal tissues present a "heavy," sodden appearance. Urinalysis shows: small quantity, highly acid, with uric acid largely in excess. Treatment was given as indicated by this showing, with, in addition, an inhalation for the throat. A few days later patient reported as being able to sleep without disturbance from cough or asthma. Since then she has been put in care of a masseuse, and has had massage and vapor baths. There has been no return of the cough or asthmatic attacks.

In the foregoing cases I believe that the conditions within the nose and throat were visible manifestations of an abnormal state of the circulation dependent upon some fault in the internal nutritive processes. In the third the urinalysis gave a hint as to what the disturbance might be. Therefore, having an idea as to the cause, the conduct of the case was clear, and treatment became scientific. In the two other cases, not having made an urinalysis, the results were less sure.

CASE D.—Man, aged 55 years. Referred because of recurring epistaxis. Has had frequent nose-bleed during a period of years; lately attacks frequent and bleeding profuse. Has had obstinate watery diarrhœa for some time. Is under treatment for kidney insufficiency. Urinalysis shows: quantity reduced, hyperacid, urea low. Intranasal examination showed in this case a minute blood crust upon right triangular cartilage at about middle of line of maxillary articulation, with injected vessels showing over surface of cartilage. Upon disturbing crust a profuse hemorrhage ensued, which was controlled with difficulty. The spot was afterward cauterized; and the kidneys having regained their normal function, there was no more nose-bleed experienced.

CASE E.—Is similar to Case D in local manifestations. There were frequent nose-bleeds, and examination showed blood-vessels of surface of cartilage injected, with bleeding-point at about center of surface. In this the urine was the same, with, in addition, a trace of albumen. Here, too, cauterization and proper attention to kidneys stopped the attacks of epistaxis.

Cases similar to Cases D and E are seen fairly often. No explanation of the phenomena will be attempted here. It is possibly a mere coincidence. But the nose-bleed is found associated with renal insufficiency so often that it would seem there must be some connection.

Case F.—Youth, aged 19 years. Takes "cold" easily, and does not recover quickly. Is in college, and is a hard worker, studying until late at night. Is home from college now, feeling "played out" and with a severe coryza. Urinalysis: slightly acid, quantity lessened, specific gravity very low, traces of albumen, urea low, He was put upon treatment aimed at correcting the insufficiency, as was shown by repeated urinalyses, with the result that the coryza was relieved at once, and after a time his general condition became all right. Early in the summer he returned, saying he had started his annual attack of hay-fever. There was nasal occlusion, free watery nasal discharge and frequent sneezing. This condition he said started each summer early and lasted till fall. Upon questioning, it was found that he had been doing in-door work that was distasteful to him, besides studying late into the night. Urinalysis showed a return to his former condition. He was advised to stop work, to go into the country and rest, and was put upon his former treatment. He did stop work, but stayed at home in the city. After pursuing treatment for a few days the "hay-fever" was much relieved, and after ten days or two weeks vanished.

It is very probable that something may be taught toward the treatment of hay-fever by urinalysis. The above case I do not consider as hay-fever, but the intranasal demonstration was very like that of hay-fever. I recall another case, one of typical hay-fever, in which an urinalysis was made. The urine was simply loaded. Its specific gravity was 1.036, highly acid; very strong indican reaction; and with phosphates, chlorides, uric acid and calcium oxalate increased. This case gave up treatment at a critical point. Therefore there is no result to report. But I believe that if taken in time these cases may be cured of the hay-fever habit if they be treated according to the urinary findings, in addition to proper intra-nasal procedures.

Case G.—Girl, aged 17 years, with very profuse discharge from pharyngeal vault; also some from nose and ears. Skin is very muddy, and there is some eczema of face. Feels weak and tired. Urinalysis shows normal acidity; low specific gravity, with marked indican reaction. There was marked constipation. Thinking there might be some connection between the presence of the profuse discharge in the pharynx and the indican in the urine, treatment was given solely for the regular and complete clearing of the intestine. Within a short time all secretion within nose, throat and ears had completely disappeared, without any local attention whatever, except in the ears.

This case is one of auto-intoxication, intestinal in origin. It exhibits the relationship between decomposition within the gut and pharyngeal catarrh. That is, in catarrh depending upon this condition alone; not all catarrhs. In this the secretion is peculiar; quite different from that in ordinary catarrh of the pharynx. It cannot be described, but must be seen to be appreciated.

CASE H.—Man, aged 23 years. Subject to frequent "colds;" once started hard to cure; is "nervous," and a hard student, studying nights in addition to day's work. Examination of nose and throat shows some relaxation of soft tissues. Urinalysis: three quarts in twenty-four hours; 1.036; highly acid; a suspicion of sugar. Repeated examinations show same condition. Under suitable treatment urine cleared. Not the slightest sugar reaction; specific gravity 1.027. Feels better; does not take cold so easily, and cold is easily broken up.

In the individual subject to frequent "colds" there will be found always some fault in the body functions; and that fault will usually be shown in the urine. Sugar will not be found in every case, nor even a hint of sugar. More often it will be found that the person carries a diathesis of some sort which lowers his power of resistance and makes him susceptible to "colds."

CASE I.—Man, aged 35 years. Comes in saying he has just had a severe attack of antral disease of left side. There has been profuse catarrh of vault and discharge from nose, with severe headache and pain under left eye. Feels now decidedly dull and stupid. There is still nasal discharges, with occlusion. Is slightly deaf, which has been growing worse during this attack. Urinalysis shows: small amount; very acid; specific gravity low; indican strongly marked; calcium oxalate crystals in abundance. Inquiry reveals that several years ago he had an attack of cystitis and urethritis, very acute and entirely innocent in origin, which gave in under a short course of alkalies. Urinary examination was not made at that time; but from the way attack began and ended, we may infer that the urine would have been found to be as it is during the present attack.

This case I think carries its own comment. It explains many of the sudden catarrhs, which seem to come without rhyme or reason. In obstinate catarrhs of the antrum urinalysis might be of use in suggesting a cause.

I could quote many cases of tonsillar and lymphoid hypertrophy within the pharynx of the child where the urine showed marked and constant abnormality. In every such case the urine will show something; but in those cases where the lymphoid hypertrophy shuts off the nose completely the urine will be the more abnormal. In some cases the urine clears after this tissue has been removed. In others the urinary condition remains after operation. In the latter cases treatment does not cease with the operation, but must be continued until the urine clears. In children with frequent throat trouble there will be found much digestive disturbance, and consequently an abnormal urine. The main "treatment" they require is the regulation of their eating in order to prevent attacks, and during attacks some attention to the intestinal tract.

III.

Thus we see how an individual's general condition may be reflected by a local condition within the upper respiratory tract. The trained observer sees, as in a mirror, the picture of his patient's systemic condition upon inspection of the nose and throat. The soft tissues of the tract, with their abundant nerve and blood supply, are quick to respond to any irritation from within; and the study of this relationship is very fascinating. The fluids of the economy are but the servants of the body; they carry from and to the external world all sustenance and waste from the different cells. It is certainly reasonable to suppose, then, that in these fluids may be found some indication of the condition of the economy. And, further, when we find a certain condition—say, of the throat—associated with a certain state of the urine (and both conditions clearing under treatment given according to the findings in the urine), may we not claim *some* value for urinalysis in laryngology?

Buffalo, N. Y., 466 Franklin St.

PRACTICAL EXPERIENCE WITH AUTOSCOPY.

Examination of the Air-Passages Without Mirror.

BY MAX THORNER, A.M., M.D., CINCINNATI, OHIO.

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Laryngologist and Aurist, Cincinnati Hospital, etc.

From the time that Dr. Alfred Kirstein, of Berlin, published his first communications regarding his new method of Autoscopy, or *direct* inspection of the air-passages without a mirror, until now, when his greatly improved and perfected method is before the profession, there has not elapsed sufficient time to gather, by collective investigation, the necessary amount of evidence as to the value of his discovery. It is needless to investigate whether the principle of this method, *i. e.*, the possibility of direct linear inspection of the larynx and the trachea, is a new one, or whether it has been occasionally made use of by former observers; the fact remains that Kirstein was the one who first applied this principle practically and systematically, and who constructed upon this foundation a method which is at once new, ingenious, and, in its present form, probably perfect. I need not enter into a detailed description of this method, as there is sufficient literature on the subject to give all necessary information; the most exhaustive description being the monograph on Autoscopy by Kirstein himself.* I will, therefore, limit myself to say that the underlying principle rests upon the possibility of bringing the imaginary axis of the laryngotracheal tube and of the buccal cavity, which ordinarily are joined at an obtuse angle, into a straight line. This is effected by pushing the tongue, through forward and downward pressure, by means of a specially constructed spatula, out of the way. In doing this the epiglottis is elevated, through firm pressure upon the median glosso-epiglottidian ligament, and thus it is possible to get a direct view of the well-illuminated larynx and of the trachea, especially if the neck is slightly stretched forward.

What is the advantage of an additional method of examining the air-passages? For the inventor himself rejects the idea that autoscopy could ever supplant laryngoscopy. On general principles we must admit that a new method, the principle of which is so radically different from that of laryngoscopy, must of necessity add in some way or other to our diagnostic and therapeutic armamentarium. It is, above all, noteworthy that we are able to see the parts, *i. e.*, the larynx, the subglottic space, and more or less of the trachea, in many cases down to the bifurcation, *directly*, and not in the reflected image. The difference is most noticeable, especially when we see the autoscopic image for the first time. The colors appear different, more vivid; the anatomical details are more distinct, more plastic; and differences of dimensions, especially as to height and depth, are more clearly appreciated. There are, however, two special advantages which are, in my opinion, alone important enough to secure to autoscopy a permanent place in our methods of examining the air-passages; the first is the possibility of being able to get a good and direct view of those portions of the laryngo-tracheal tract offering ordinarily the greatest obstacles to a good inspection, viz., the interior of the trachea, which, with the autoscope, in most cases, can be partially seen, and in some cases as far down as the bifurcation, and the posterior wall of the larynx, of which the autoscopic method affords almost a surface view—a view as it cannot be obtained by any other method. And what this means for the differential diagnosis of certain affections of the interarytenoid fold is too well known to require any comment. The second advantage is the undeniable fact that young children can be examined by the autoscopic method without great difficulty, while a laryngoscopic examination of them is often well-nigh impossible. On the other hand, it must be admitted, and Dr. Kirstein himself calls attention to it, that there are certain shortcomings of this method. There are a number of patients in whom the autoscope cannot be used at all, or only after previous cocainization of the parts; in others it is not possible to get a view of the trachea, or of all of the larynx; and of certain portions of the larynx—for instance, the anterior commissure, the ventricles of Morgagni, and the pyriform sinuses—the autoscopic examination furnishes in the majority of cases no good view at all.

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*A. Kirstein: Autoscopy of the Larynx and of the Trachea. Philadelphia: The F. A. Davis Company. 1897.

My experience regarding the possibility of autoscopic examinatiion is as follows: Autoscopic manipulations must be practiced for some time before the examiner acquires the necessary dexterity. It is not just to judge about this method without this previous experience, as wrong conclusions might be readily drawn from lack of practice. Kirstein himself clearly points this out in his book. In about 15 to 20 per cent. of my cases it was possible to get a good and complete view of the larynx and of the trachea; in about one-third of these cases it was, however, not possible to see the anterior commissure: This difficulty may, however, be overcome, at least in part, by elevating the larynx from the outside with the thumb, a little help lately advocated by the inventor. In about 50 to 60 per cent. part of the larynx, especially the posterior wall, the upper portion of the trachea, could distinctly be seen. In the rest, the autoscopic examination was, for various reasons, not possible. These figures are, of course, only approximative, as I deducted them from my first attempts, when I had less experience, and from my later examinations. They may probably be slightly changed in another series of experiments. I did not find any great difference as to sex in the applicability of this method, although at times it appeared to me that women were better subjects for the autoscopic examination than men. Very rarely was pain complained of, and upon inquiry patients would usually admit that the method was more or less disagreeable, but not to such an extent that it appeared in any way an obstacle to repeated manipulations. In fact, if properly done, that is firmly and yet gently, most patients get readily used to it. I had a similar experience as Dr. Ephraim* with a female patient, who greatly preferred the autoscopic to the laryngoscopic examination. However, this must be looked upon as an exceptional occurrence. Autoscopy should — this is self-evident — be looked upon as supplementary to and not as supplanting laryngoscopic examination. In most cases it can be dispensed with, and should in every case be preceded by the use of the mirror. In many cases autoscopy will give us most valuable information, where laryngoscopy fails. This is especially true in affections of the posterior wall of the larynx and of the trachea. It enabled me, in a case of stenotic breathing, to distinctly see a compression of the trachea, probably due to an enlarged thyroid gland, which could not be seen with the laryngoscopic mirror.

For therapeutic purposes my experience is as yet limited. I found it very useful for intratracheal injections, which are much faciliated in such patients in which the method can at all be readily exhibited. For this purpose I had a syringe constructed with silver tube, bent at an angle of about 135 degrees. Of operative procedures, I can report but one, namely the removal of a large piece of chicken-bone, about 1¼ inches long, from the larynx. I used a very slender, serrated, straight tube forceps, eight inches long, in Krause's universal handle, such as is used for the male urethra. The removal was accomplished without any difficulty.

In conclusion, I will say that I consider Autoscopy the most important addition to our technical resources made since the discovery of the laryngoscope by Garcia. And, I have no doubt that henceforth everyone, who wishes to master the technique of laryngology, will have to familiarize himself with this—after all astonishingly simple—method of laying the air-passages open to direct inspection.

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*A. Ephraim: Ueber die directe Laryngoscopie (Autoscopie). *Monatsschr. fur Ohrenheilk.*, Feb., 1896.

INSTRUMENTS USED IN TONSILLOTOMY BY ELECTRO-CAUTERY DISSECTION.

BY EDWIN PYNCHON, M.D., CHICAGO, ILL.

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In the removal of abnormal tonsils by electro-cautery dissection I have found the following-described instruments of value, they having been modified or devised to meet the requirements of the operation. To assist in the production of cocaine anæsthesia I often use a long hypodermic syringe, and with it inject in both the anterior and posterior pillars of the side to be operated upon a few minims of a 4-per-cent. cocaine solution. There is no appreciable effect derived from making the injection into the tissue of the tonsil, but a few minims injected under the mucous membrane of the pillars will give a good result. When properly injected a bleb is produced, which will for several minutes remain visible. The barrel of this syringe is made of metal, and the lower cap, after being screwed thereupon, is soldered, so as to do away with the leather washer at this point, which is always of necessity employed with the glass barrel. Another argument in favor of the metal as compared with the glass syringe barrel is that the calibre of the latter is seldom uniform, and hence the action of the

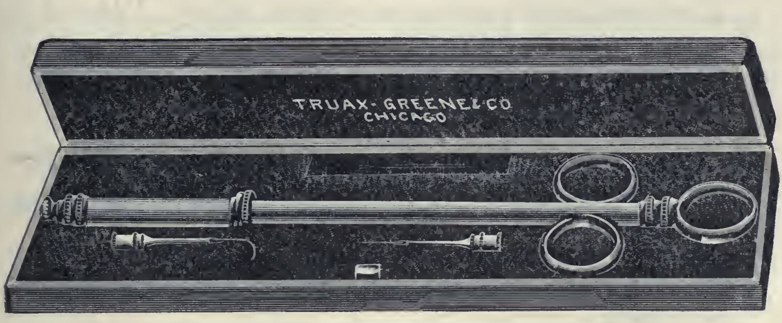

FIGURE 1. Tonsil Syringe (half size).

piston is not so regular, while with a metal barrel absolute accuracy is possible. And again, who cares to see either the piston or the solution being used? If desired, the former can always be easily examined and oiled by taking the syringe apart, while the quantity of the latter can be surely known and gauged by the indicator on the piston rod and the regulating nut upon the same; so I again repeat, why so often, in all hypodermic syringes, is the ureliable, breakable and unnecessary glass barrel to be met with, particularly as corrosive solutions are not employed?

Returning to the tonsil syringe under discussion, there is supplied therewith a cap to be tightly screwed upon the opening when the needle has been removed, which prevents drying of the piston washers.

The syringe, beyond the barrel, is sufficiently lengthened to permit of easy use in the fauces; and, to facilitate its being used with one hand, is provided with ring handles at either side and a ring terminus to the piston rod. Each syringe is supplied with two needles, and all are encased in a neat leather box, as shown in cut.

In many cases I omit the use of the syringe, and get the required anæsthesia by applying a solution of cocaine, varying in strength from 20 to 33 per cent., with a probe wrapped with cotton. I have found for this purpose an advantage in having probes of extra length and size, as shown in cuts. They are made of soft brass, nickel-plated.

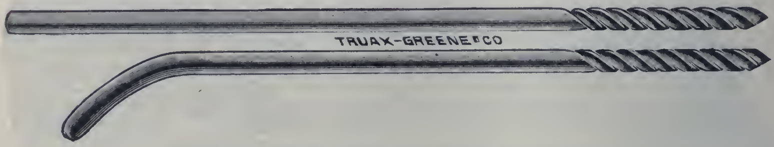

FIGURE 2. Cotton Carrier Probes (two-thirds size).

In order to draw the tonsil forward toward the median line I use a spring-toothed forceps. I have tried different kinds and styles of forceps, with and without locking devices, some being of the scissors form of construction, but have found the simple form shown to be the most desirable, as with its use the part engaged can be instantly re-

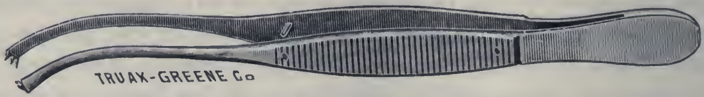

FIGURE 3. Spring Tonsil Forceps (half size).

leased if the patient is about to gag. The slide lock is a particular abomination to be avoided. While the forceps with moderately fine teeth, as shown in Fig. 3, is generally satisfactory, there are occasionally met with cases in which the tonsil surface is so soft and friable that a forceps is required with long enough tenacula to pierce through and into the deeper and firmer tissue below. In such cases I use the spring tenacula forceps here shown.

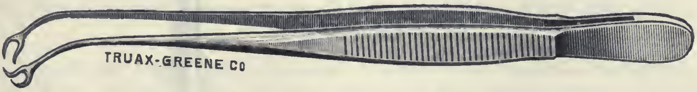

FIGURE 4. Spring Tenacula Tonsil Forceps (half size).

Either of these forceps will also be found of value in pulling forward a tonsil through the ring of a tonsillotome when an ordinary tonsillotomy is being done with any of the standard ring guillotines.

In making the dissection in my electro-cautery operation* I use a variety of cautery points, bent at angles from the shaft varying from 30° to 90°, with the bend either vertical or lateral from the line of the handle; and, being reversible, the former can be directed either up or down, and the latter either to the right or left. I have found those points or electrodes which are 5½ inches long most convenient to use. I will append illustrations showing the two extremes of either style.

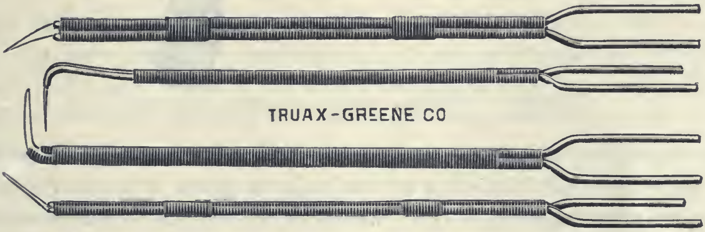

FIGURE 5. Electrodes for Electro-Cautery Dissection (two-thirds size).

The tongue depressor that I have found most satisfactory is here shown, and was fully described in the *Chicago Medical Recorder* for March, 1895. In this tongue depressor are two long and narrow parallel fenestræ, which tend to grasp the tongue and prevent its slipping, while, by being narrow, a flabby tongue cannot project up and through them so as to obstruct the view or become injured. The blade has enough width to prevent its slipping to one side, and when in the median line is wide enough to prevent the edges of the tongue curling up at either side.

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* *Jour. Am. Med. Assn.*, Nov. 22, 1890.

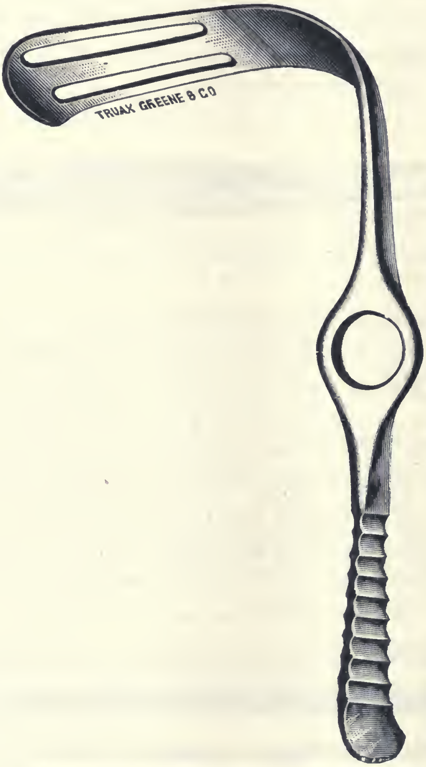

FIGURE 6. Operating Tongue Depressor (half size).

In order to increase the grasp and better facilitate any examination for which it is used, the end of the blade is given a slight downward bend, thereby assisting in the drawing of the tongue forward and away from the posterior pharyngeal wall.

Half-way down the handle a ring is provided, large enough to admit the index finger, and is placed at a right-angle to the flat of the handle. This ring will be found of the greatest utilty when the patient is requested to assist by holding the depressor.

The lower end of the handle is corrugated at either side, which is found to give the best surface for a handle. Corrugations in this place, from an aseptic standpoint, are not objectionable, as when found in the blade.

Columbus Memorial Building.

" CAN YOU CURE DEAFNESS CAUSED BY 'CATARRH?' "

A REPLY.

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" Doctor, can you cure deafness caused by 'catarrh'? "

When this question is asked of the modern aurist—as it *is* asked of him, and as it will be asked of *you*, time and time again, by people "deaf from 'catarrh,'" and by interested friends and relatives of such sufferers—a vast multitude of pertinent thoughts crowd forward for first utterance, in monstrous disregard of the invited "Yes!" or "No!"

Why not suppress this struggling throng, and set the inquirer's mind at rest, at once, with simple "Yes" or "No"? Or, if a conditional reply only be admissible, why not state briefly, plainly, categorically, upon what its contingency, its circumstantiality, its conditionality depend? Can it be, that after improving the ample opportunities recently afforded for vicarious and personal study of this question, judgment still halts in confusion or doubt? Is the problem of prognosis, here, contingent upon some factor actually so potent as to maximize the feature of uncertainty in any possible clinical case? Or, is it, that the question, as put, is so vague, or so general, that a categorical answer is simply impossible?

In short, if not "Yes" or "No"—then *what* is the correct answer to the question: "Can you cure deafness caused by 'catarrh'?"

An answer to *all* these questions—a solution of the entire problem —may perhaps more readily be arrived at by approaching the subject in a manner and from a direction somewhat different from those usually adopted by accepted authorities.

Let us consider, first, what we *mean*, when we speak of "deafness caused by 'catarrh.'"

Surely, there is present in our mind the clinical picture of a condition which abridges one's usefulness to one's fellow-men, and almost wholly ostracises one from their society; where the heart may nevermore be aroused by the cry of distress, soothed by the voice of sympathy, or thrilled by the song of love; and one walks among his fellows and the myriad sounds of Nature as in a living tomb. We recognize in it an affliction, than which few are more generally dreaded; few more intractable; and to which, we instinctively pray, that we may be spared the awful duty of condemning the wretched victim in utter hopelessness. *This* is implied in the phrase "deafness caused by 'catarrh.'"

But, what is there, in the morbid process which we call "catarrh," that involves such profound deafness; and how far may we hope to amend this with the means at present available?

The ear, proper, as you well know, is designed, physiologically, to transform the physical force of aerial sound-waves into a corresponding undulatory current of specific nervous force in the auditory nerve, which, on reaching the conscious cerebrum, vanishes in a perception of "sound." Without exposing the delicate terminal apparatus of the exquisitely sensitive auditory nerve to the dangers that would, inevitably, have attended its immediate exposure to the swash of the great aerial ocean, Divine Wisdom has effected the desired end by the creation of an extremely complicated and delicately adjusted apparatus which takes the force of sound-waves from the air, and transmits it through soft tissues, bone, and liquid, successively, to the terminal filaments of the auditory nerve. In order to have maximum hearing, reception and transmission of force must be effected normally by these organs. That we may comprehend *how* "catarrh" *produces deafness*, we must, first, learn *how it interferes with this process*. Then,—and not till then,—knowing its location and nature, can we determine intelligently whether or not it can be so dealt with as to restore, once more, normal receptivity and transmissivity to those aural structures whose function it is to take the force from aerial sound-waves and conduct it to the terminal filaments of the auditory nerve.

To ascertain, then, the location and the nature of "catarrh" of the ear, let us review, briefly, the essential mechanical features of the auditory receiving and transmitting apparatus operating between the ocean of sound-waves, without, and the terminal structures of the auditory nerve, within.

The external auditory canal, the drum cavity, the Eustacian tube, and the naso-pharynx, together, form an air-tube, as it were. Aerial sound-waves would flow freely through this, were it not for the presence of *the drum-head*—a vibratile, elastic membrane, which forms a complete septum in this air-tube, at the bottom of the external auditory canal. This membrane, whose circumference is attached to inflexible bone, is somewhat hopper-shaped; its radial fibers being convex outwardly, while its center lies to the median side of the plane of its circumference. It consists of,—say, three layers: the outer, of epithelium; the middle, of radial and circular elastic fibers; the inner, of mucous membrane. Imbedded in the uppermost radial structures of the elastic layer, is the handle of the *malleus*—a club-shaped bonelet, whose head lies considerably above the top of the *drum-head*, and vibrates in a direction contrary to that of its handle and the membrane below. By the impact of sound-waves upon the *drum-head*, its radial fibers are flattened into arcs of greater circles, whose chords are longer than before; thus shifting the center of the membrane, and extremity of the handle of the malleus, to a point still further from the plane of the circumference of the membrane. Thus, the force of sound-waves is received from the air into the soft tissues and transmitted unto bone.

In the solid bone forming the inner wall of the tympanic portion of the so-called "physiological air-tube" of the ear, is a tortuous passage,—*the bony labyrinth*, from which, open into the cavity of the *tympanum*, two "windows:" one, "the oval;" the other, "the round." The latter, in its normal condition, is closed by the "*secondary drum-head*",—an elastic, vibratory membrane, covered, on the tympanic side, by a layer of the mucous membrane lining that cavity and continuous with the inner layer of the "*drum-head.*" The former, or "*oval window,*" is closed by an elastic membrane, to which is adherent the base of the foot-plate of the *stapes*, or little "*stirrup-bone.*" This ossicle projects into the cavity of the tympanum; and around its foot-plate, is an elastic *annular ligament.* By this arrangement, are retained the contents of the *bony labyrinth*,—a liquid, in which floats a membranous sac, approximately corresponding in shape with the bony labyrinth, containing a complicated, very delicate apparatus for the suspension of the terminal filaments of the auditory nerve. Impelled by force, the *stapes* operates as a piston upon the labyrinth; and moving with, but in a direction opposite to that of the *secondary drum-head* at the *round window*, it impresses its every movement upon the labyrinthine fluid, its contained membranous sac, and the terminal filaments of the auditory nerve, whose movements, normally, are attended by corresponding waves of nerve-force in that nerve—waves that roll inward to the *sensorium*, where they break in the consciousness of sound.

So far, we have briefly described the essential mechanical features of the aural apparatus with which "the force of sound-waves is received from the air into soft tissues and transmitted unto bone;" and of that, with which force "transmitted unto bone," is, in turn, transmitted to liquid, and there transformed into waves of nervous excitation in the auditory nerve. It now remains but to describe the parts connecting and adjusting these, to finish what is indispensable of the mechanics of the auditory transmitting mechanism.

Between the head of the *malleus* and the head of the *stapes*, is suspended the *incus*, or *anvil-bone*, of the three bones, the most loosely attached to other parts. Attached to the inner surface of the handle of the *malleus*, is a muscle—*tensor tympani*; and to the head of the *stapes*, is another—*stapedius* (by many considered antagonists), which, co-ordinating, under reflex influences, with the extrinsic muscles of the ear, and with each other, regulate and maintain the normal pressure of these two bones upon their intervening fellow, the *incus*; while, at the same time, by acting reciprocally or alternately, they maintain, upon the *drum-head* (towards the sonorous air, without,) and upon the elastic membranes of the *round* and *oval windows* (restraining the labyrinthine fluid and structures within,) that degree of tension which will facilitate the best hearing for an aerial sound-wave of any consciously or unconsciously anticipated degree of force. Why the tension of this apparatus should be so delicately adjusted as to enable it to operate as a mechanical unit, or vibratory lever, so to speak, is obvious, when we reflect upon the fact, that the entire acoustic tract, extending from the *drum-head* inward, clear through the ear, is so many times shorter than that of the very shortest sound-wave audible, that the auditory transmitting mechanism must move, if at all, as a solid body, in response to the impact of sound-waves. It is clear, then, that normal mobility of all parts of the essential receiving and transmitting apparatus of the ear, is essential to normal hearing. Other things being equal, the more free the movement of this mechanism as a unit, and the more delicate its adjustment to the other parts which complete the auditory balance, the more sensitive the hearing. Conversely, the more impaired the mobility of any part or parts, and the more disturbed their tension reciprocally or with other parts, the greater, proportionally, will be the deafness.

Consider now, how this immobilization is effected by "catarrh."

Lining the inner surface of the *drum-head*, the outer surface of the *secondary drum-head*, the entire walls of the *middle-ear tract*; reflected as a covering over all its contained structures, above described,—sometimes closely, sometimes loosely; stretching in folds, bands, and septa, from, about, and between these structures; and extending along the wall of the narrow *Eustachian tube* onto that of the *naso-pharynx*, is the *mucous membrane*, the *objective prey*—usually, but improperly, termed the *seat*, or *home*, of "catarrh" of the ear—"improperly," it has been said, for the following reason: aural "catarrh" is not a local disease; it is, at first, a functional disorder, and, later, "a chronic trophoneurosis of the mucous membrane of the middle ear, occurring coincidentally with similar trophoneuroses of the entire pneumatic system of the head and throat, and with other neuroses; all of which conditions are dependent upon a lowering of the general vitality due mainly to the continuous action of unfavorable climatic and hygienic surroundings."*

It is, however, by changes in the aural mucous membrane and, through it, in its immediate neighbors also, that the immobilization of the auditory transmitting mechanism is effected in "catarrh." Now, what are these "changes?" Let me quote to you a brief but adequate description of "catarrhal inflammation," the best, perhaps, that has been, or can be, given—one from the tongue of my respected preceptor, the eminent pathologist, Dr. Francis Delafield, of New York:

"ACUTE CATARRHAL INFLAMMATION OF MUCOUS MEMBRANES.

"In the first place, of catarrhal inflammation. Catarrhal inflammation of mucous membranes occurs both as an acute and chronic process. In the acute form we find the affected mucous membrane congested, which gives to it a brighter red color. There is in many cases a certain amount of swelling, and at the very beginning of the process the mucous membrane is dryer than it should be, on account of less mucus being produced by the glands. After the inflammation has lasted for a little time the functional activity of the mucous glands is greater, and the surface of the membrane is bathed with an increased amount of mucus. Mucus produced in too great quantity does not have the consistency or qualities of normal mucus; it is sometimes thicker, sometimes thinner, and is acrid and irritating to the parts. The degree of congestion varies considerably in different cases, and is regulated by the intensity of the inflammatory process. If the inflammation be very severe the parts will be very much congested, the blood-vessels will be gorged with blood, and the color of the mucous membrane, instead of being bright red, will be of a darker, bluish, livid color. In milder cases the mucous membrane will be of a redder color than it should be, and the epithelium will also undergo changes. The process of desquamation of the superficial epithelial cells, and the production of new epithelial cells, goes on more rapidly, so that an

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*S. Sexton, in *Burnett's System of Diseases of the Ear, Nose and Throat.* Philadelphia: J. B. Lippincott Co., 1893. Vol I., p. 326.

examination of the mucus taken from the inflamed surface would reveal an increased number of epithelial cells. Sometimes the process of desquamation goes on so rapidly that new cells are not formed fast enough to take the place of the old ones, and we have as a result superficial ulcerations.

"*The changes which take place in acute catarrhal inflammation are always much more evident during the life of the patient than after death, and you will observe that these changes are not, properly speaking, structural changes.** The blood-vessels contain more blood, the mucus glands have their function altered, there is swelling of the mucous membrane, and there is increased desquamation of the epithelial cells; but, unless this latter process is sufficiently marked to produce ulceration, there are no structural changes in the mucous membrane. Hence, we may examine the part after death, and find no changes indicating that inflammation existed during the life of the patient. This is seen frequently enough at the autopsies of patients in whom we have observed before death that conjunctivitis was still going on. Upon examination of the eye after death it will be observed that the congestion has disappeared, the swelling has gone down, and there is perhaps no mucus present. *It is important for you to remember this fact, that acute catarrhal inflammation cannot be affirmed or denied from evidence obtained at an autopsy.**

"CHRONIC CATARRHAL INFLAMMATION OF MUCOUS MEMBRANES.

"*In chronic catarrhal inflammation of mucous membranes, structural changes do take place and persist after the death of the patient, and these changes can be as readily demonstrated after death as during life.** In a certain number of the examples of chronic catarrhal inflammation we find the mucous membrane congested, and in addition we find the blood-vessels larger than they should be and more numerous. In other examples we find exactly the opposite condition. The blood-vessels contain less blood than they should, and the mucous membrane, instead of being redder than normal, is of a white, grayish, or sodden appearance. The blood-vessels, instead of being more numerous and dilated, may appear to be less numerous than the blood-vessels in normal mucous membrane. The functional activity of the mucous glands is always affected in chronic catarrhal inflammation, but here again in different examples we find the mucous glands affected in two different ways. In a certain number of cases the production of mucous will be increased, and this mucous will be of an abnormal character. In other cases, exactly the opposite condition obtains. There is too little mucous produced, and as a result of this, the mucous membrane is constantly dry, and of a peculiar shining appearance. In ordinary naso-pharyngeal catarrh, you have a very good example of both these changes. There are a certain number of these cases in which there is too much mucous; the patients are continually blowing their nose, and raising mucous from their throat, and, upon inspection, strings of mucous will be found hanging from the walls of the pharynx. In other cases, the mucous membrane of the pharynx looks perfectly dry, there being no mucous whatever upon it. *This same variety of inflammation affects other mucous membranes.**

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*Not italicized by Dr. Delafield.

"Certain changes take place in the stroma of the mucous membrane: it is sometimes hypertrophied, sometimes atrophied. *If it is hypertrophied, the hypertrophy may be** either uniform or *circumscribed; if circumscribed, the hypertrophies form little tumors projecting from the surface of the mucous membrane. The mucous glands may be also hypertrophied** or atrophied, and here again *the hypertrophy may** involve all the glands of the affected mucous membrane, or it may *be confined to a limited number of the glands, and the rest remain in a normal condition. In still other cases we find circumscribed hypertrophies of stroma and circumscribed hypertrophies of glands, accompanied by the production of little polypoid growths.** In still other cases the glands become cystic; the ducts of the glands become narrowed or obstructed, and there is an accumulation of mucous in the lower part of the glands, which results in their distention, so as to form cysts, sometimes of considerable size—large enough to be seen with the naked eye. *The changes which we have described, you observe, are sufficient to produce well-marked structural changes in the mucous membrane.** If the blood-vessels are increased in number and size, if the stroma is atrophied or hypertrophied, if the mucous glands are atrophied or hypertrophied, or cystic, all these changes can be recognized as well after the patient's death as during his life. I should have stated that in this form of inflammation we have the same changes taking place in the epithelium as in acute inflammation, namely, desquamation of the epithelial cells. The desquamation may be so rapid as to give rise to superficial ulceration."†

If you have noticed particularly those portions of this remarkable adequate description of "catarrhal inflammation," which I have taken the liberty of emphasizing, you must certainly appreciate the fact that "deafness caused by 'catarrh'" is curable, or not, accordingly as the changes in the mucous membrane, and their physical consequences, are remediable, removable, or not. Where these are mainly functional, cure by simple treatment is almost certain. Where, however, these are structural, cure depends wholly upon the possibility of so acting upon these new physical conditions as to liberate the essential transmitting mechanism. In some cases this can be accomplished by medicinal, hygienic, and simple mechanical measures. In others, where the means already mentioned prove ineffectual, surgical operation may serve to release the transmitting mechanism from its bonds—very limited encroachment only, upon the impeded structures of the tympanum, frequently accomplishing this end, particularly in those cases where the process of local tissue metamorphosis has remained circumscribed, as mentioned, above, by Dr. Delafield. In still other cases, the structural changes will have involved a larger portion of the essential transmitting mechanism than can be restored to normal mobility by severance from their normally adjacent, but abnormally attached parts. In such cases, the proper procedure—liberation of the deeper portion of the auditory conducting apparatus, still movable, from the permanently immobilized portion, with provision for free entrance of aerial sound-waves to that mobilized deeper portion—may restore hearing. In all cases, therefore, of intractable deafness from chronic aural "catarrh," where milder means have first been tried intelligently, but in vain, the drum-head should be opened and the tympanum explored, with a view to determining the degree of mobility of the several parts of the transmitting mechanism, the location and character of the abnormal structural conditions that hinder its free movement, and the possibility, or rather degree of probability, of restoring hearing by surgical operation upon these parts. The details of such surgical procedure are, of course, peculiar to each individual case; and are only to be estimated and put into execution by one wholly familiar with the surgical-anatomy and physiology of the ear, and thoroughly skilled in the technique of such deep and difficult aural surgery.

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*Not italicized by Dr. Delafield.

†*Lectures on the Practice of Medicine*, by Francis Delafield, M.D., ("delivered in the College of Physicians and Surgeons during the regular winter session of 1880-81"). Reported, Arranged and Published by M. Josiah Roberts, M.D.; New York; 1881; pp. 9-11.

As an *epitome* of our modern resources, "The author would, therefore," in the language of the late lamented Dr. Samuel Sexton, of New York, "*sum up* the rules for the treatment of aural catarrh in the following statement. Place the patient in any case in the best condition possible by guarding him from changes of temperature and moisture, by improving his hygienic surroundings, carefully attending to his diet, removing all causes of reflex irritation, and in all ways striving to improve the general health and tone of the system. In addition, if the case seems to be a recent one in which hypertrophy and hyperæmia of the mucous membrane, and occlusion of the Eustachian tube play the principal part, general treatment may be supplemented by the judicious use of the Poltizer bag and catheter, and in selected cases by local treatment of the naso-pharyngeal catarrh. Should both general and local measures of this sort not produce a speedy improvement, no further time must be wasted, and the radical operation must be done without delay." *

If, however, all efforts to mobilize that portion of the transmitting mechanism acting in the labyrinth upon the auditory nerve, prove unsuccessful, (medical science of the present not sanctioning, here, surgical encroachment upon the labyrinth,) the physician may feel that he has done his duty, having conscientiously exhausted every reasonable resource to restore the hearing, before condemning to utter hopelessness the wretched victim of profound deafness of chronic aural catarrh.

***Burnett's System of Diseases of the Ear, Nose and Throat.* Philadelphia: J. B. Lippincott Co. 1893. · Vol. I., page 372.

3211 Lucas Avenue.

CHRONIC AURAL CATARRH.

H. I. JONES, M.D., L.R.C.P.E., ETC.

American Medical Association, California State and San Francisco Medical Societies.

Briefly stated, the object of my paper is to demonstrate the morbid changes that occur in the nose, throat and Eustachian tubes and tympanum in chronic aural catarrh. Before entering further upon this subject, a few words upon the importance of the structure involved. For practical purpose we may consider the middle ear as consisting of the membrana tympani, the tympanic cavity, the mastoid cells, the chains of ossicles and certain muscles, nerves, and vessels. We have here in a very limited space a set of delicate structures performing important functions, easily disturbed from the standard of health by a variety of causes, and attaining increased importance from their contiguity to such vital parts as the labyrinth, the internal jugular vein and artery, the dura mater, and several venous sinuses of the brain; one may be excused from thinking that, even if no alarm is felt for the tympanum itself, when attacked by inflammation, its anatomical neighbors might well command respect. Yet how often does the well-educated practitioner content himself with uttering a few common-places about the benign operations of nature, prescribing sometimes, while ulceration is quietly working its way among the structures of the tympanum.

If the profession at large would only keep in mind the pregnant fact that "every congestion of the lining membrane of the tympanum is a periostitis, and every ulceration of it a caries of the osseous walls that may lead to the most serious consequences," many lives would be saved, many useful ears would be spared. The seeds of most diseases of the nose and throat are generally laid in childhood, when the subjects of these troubles have suffered in early life from the exanthematous fevers to which they are so much exposed. In scarlet fever, measles and the like, that considerable area of mucous membrane which covers the pharynx and nasal passages is throughout affected, so that, as might be expected, long after these maladies have been recovered from a greater or lesser part of the area is found to have undergone change. There is little doubt that if, during the stages of these fevers, more attention were paid to the local state of the nose, so many troublesome chronic affections would not be seen. Hence the various conditions which lead to aural catarrh and deafness. If we consider for a moment the structure which the mucous membrane of this region covers, we can map out for ourselves some of the probable results of acute inflammations affecting it.

Chronic aural catarrh is generally the result of acute inflammation of mucous membrane above mentioned, and is commonly due to extension from the pharynx along the Eustachian tube, which as we all know is the channel designed by nature for maintaining a due equilibrium between the atmosphere and tympanic air, and for draining superfluous mucous from the tympanum; when all these parts concerned are in a normal condition it admirably serves both these purposes; but, as I have shown, it serves also as a channel for conducting morbid material from the pharynx; and when we remember its shortness, and the continuity of its mucous membrane with that of the pharynx, it is far from strange that it should do so. The more closely we study the throat and nose symptoms in all aural diseases, the more frequently shall we find facts demonstrating that when these parts are morbidly affected, other organs, though remote in their positions, easily become involved.

In examining a case of chronic catarrh of the middle ear, with or without obstruction of the Eustachian tube, we will generally see, on looking at the throat, thick tenacious mucus adhering to the upper part of the pharynx and post-nasal region, and with this what is termed a granular pharynx, that is the back of the pharynx is seen to be studded with separate granular bodies. This morbid state often involves the post-nasal region, and by extension to the opening of the Eustachian tubes causes obstruction to the passage of air to the tympanum. In this region is found the adenoid tissue which was described by Luschkas, which normally exists between the orifices of the Eustachian tubes, and the excessive development of this tissue takes the form of what we call adenoid vegetation and growth; this causes imperfect nasal breathing as well as obstruction of the Eustachian tubes. In this form the ailment attacks children and young or middle-aged persons. We all know the aspect of a child who is deaf from obstruction of the Eustachian tube; he is unable to breathe through his nostrils, the characteristic open mouth, the odd thick voice, the stupid look, and the fact of the child snoring when asleep bespeaks the conditions. When this condition is present, and when the tonsils are not found so very much enlarged, adenoid growths may be suspected and sought for. There are two ways to find these growths—either by rhinoscopy or by the fingers. The value of the first has its difficulties; this applies to young children, and to young people who have shallow pharynx. I find it impossible to get clear reflection of the posterior nares. But a far more easy method is the finger examination; by touch adenoid growths may be easily recognized; it is as if the finger touched a bag of worms. If the patient is seated in a chair, the forefinger of the right hand, protected by a guard, may easily be introduced behind the soft plate; owing to the great vascularity of the growth, they bleed when touched.

The condition of affairs is easily diagnosed by the assistance of auscultation and Poltizer's bag; by it we become informed whether the Eustachian tube is freely or partially penetrable by a stream of air; subsequently, by inspection of the membrana tympani, the cone of light and other general observations will wholly determine, with some precision, the nature of the alterations which have caused the deafness—not forgetting the valuable assistance afforded by the use of the tuning fork. There are other valuable aids in the diagnosis, such as the history of the case; the patient's statements; the origin of the disease; the kind, duration and degree of deafness. These are such common accompaniments of chronic aural catarrh, that it would be encroaching too much upon the valuable space of this Journal to describe them in detail. Passing on to the therapeutic management of these cases of chronic aural catarrh, the most efficient consists in thorough routine treatment of the whole naso-pharyngeal region by means of well-chosen sprays and pigments. Adenoid growths and hypertrophies of the nasal and post-nasal region, which impair the functions of nasal breathing and which fail to improve under mild treatment, must be reduced by an operation best suited to the case. For the post-nasal vegetations, I use my finger nail, after first making my finger and the parts aseptic; the nasal I remove by the galvano-cautery; sometimes I use trichloracetic acid, each case being a law unto itself. The removal of any constitutional dyscrasia. Prescribing cod liver oil, syrup of the iodide of iron, tonics, and placing the patient under the most favorable hygienic conditions. In gouty or rheumatic cases we should, in addition, prescribe such constitutional remedies as are efficacious. After first inspecting the meatus and the drum-head, I determine the hearing distance and proceed to the examination of the Eustachian tube, forcing air into the cavity of the tympanum, and determine, by means of the otoscope, whether a current of air enters the cavity. When the hearing distance is improved, I proceed to use different vapors—iodine and ether, camphor, menthol and thymol. If there is excessive secretion from the mucous membrane of the tympanum and Eustachian tube, I use an injection of some mild astringent into the middle ear, continuing them twice a week. If I find no improvement after a few weeks' treatment, then there must be thickening of the mucous membrane, with rigidity and diminished mobility of the ossicles; for such cases I use injections of iodide of potassium, and aural massage; lately I have been employing a vapor massage by means of the universal Multinebular Vaporizer; in those chronic cases with thickening and rigidity of the ossicle, have found excellent results. Of course, a thorough routine treatment of the whole naso-pharyngeal region by means of well-chosen sprays and pigments must be kept up. As chronic catarrh is the commonest form of deafness, so is tinnitus aurium the most frequent result or sign of it. Distension of the blood-vessels in the tympanic cavity renders a beating or pulsating sound; by following Dr. Dundas Grant's method we can determine the location: "If pressure on the common carotid in the neck checks or diminishes the pulsations, the congestion is in the middle or external ear. If pressure on the vertebral arteries does so, it is in the internal ear, supplied by the internal auditory artery, a branch of the basilar, which is formed by the junction of the two vertebrals."* If I find stenosis of the Eustachian tube, I pass Lammarg's bougies, gradually increasing the size.

The line of treatment which I have rapidly sketched is not difficult of execution; nothing more nor less than common-sense applications of well-known principles of aural surgery; and with reference to the success I can only answer from my own experience and that of numerous others, that the results are quite as good as would be expected from the rational treatment of catarrh in such a situation. However, it is only through a competent knowledge of the anatomy and morbid appearance that we can even hope to fully understand the course of a chronic catarrhal affection, and to form a correct diagnosis as shall lead to successful treatment and permanent cure.

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*The Laryngoscope, July, 1896.

222 Post St.

CLINICAL REPORTS.

LACTOPHENIN AND NUCLEIN.

BY W. C. BUCKLEY, M.D., PHILADELHIA, PA.

Two things in pathogenesis and therapeusis I believe are true:

The first is that if any disease of the throat and nares be microbic in character, tonsilitis is one; and an excellent treatment for it is the local application of lactophenin, which is about the same, chemically, as phenacetin.

Lactophenin, however, differs in containing lactic acid instead of acetic acid, and this slight difference, chemically, seems to make a vast difference therapeutically. It is a white and comparatively tasteless powder, sparingly soluble in water. Lactophenin is prescribed also internally in the same affection. It reduces abnormal temperature; but does not seem to exert any marked influence upon the circulation or respiration. I have used it in pneumonia, influenza, scarlatina, acute tuberculosis acccompanied by fever, and septicæmia, with excellent results.

In the high temperature and restlessness of enteric fever (typhoid) it has also served me a most excellent purpose; here a child may take one or two grains with pleasant effect. The full adult dose is from four to sixteen grains. In giving this remedy, the proper plan is to begin with small doses, and increase according to the effect produced.

The second is that in disorganized states of the blood, and in all forms of wasting disease, *nuclein solution* (Auld) is probably the greatest tissue-builder now known—the chief of the "*defensive proteids.*" It is used by the mouth and hypodermically. Nuclein powder (nuclein in trituration), used topically in ulceration, also in diphtheria, tonsilitis, etc.; in the former and in diphtheria my experience with it has been most favorable.

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EDITORIAL.

RECENT LITERATURE CONCERNING THE NASAL ACCESSORY CAVITIES.

The anatomy and physiology of the various portions of the body have not been equally exploited, and even the gross anatomy of many portions is little understood. It is only comparatively recently, for instance, that the functions of the mastoid antrum and cells have been approximately understood; and that the indications for, and the technique of operations upon it, have been intelligently formulated. But of all the bony regions of the skull, perhaps the group of cavities tributary to the nasal fossæ are the least understood as regards their anatomy, physiology, pathology, and treatment when diseased; the natural result seemingly, of their being unusually difficult of access, and that the symptoms produced by their derangement are more or less baffling and obscure, though their interpretation is of the utmost importance, not only to comfort, but actually to life. What has just been stated is emphatically borne out by very recent clinical experience.

Prominent among those recently published are, the report in the *Journal of the American Medical Association* of the discussion, in the Chicago Academy of Medicine, on Dr. Henry Gradle's essay, entitled "Diseases of the Nasal Accessory Cavities," and an article by Dr. C. R. Holmes, of Cincinnati, in the *Archives of Ophthalmology*, on "The Sphenoidal Cavity and Its Relation to the Eye." The most startling facts established relate to the anatomy of these cavities. Classical topography is more or less discredited, as well as the generalizations of anatomical text-books — fair elementary guides to the undergraduate, but sometimes misleading ones to the surgeon. Thus, in the discussion in the Chicago Academy, Dr. E. S Talbot stated that in his elucidation of deformities of the nose and antrum (maxillary) 6,000 antra were examined, and that few of these cavities were uniform in their develpment. "Some of them were very small; much smaller than the average antra mentioned by Gray. One of these antra may be divided into a number of cells, and * * how absurd it would be to examine an antrum of that kind with a light because of the fact of its being filled up with bony cells. Sometimes these little cells are located below the orbit, and the lower part of the orbit is entirely filled up. * * * In some cases the floor of the nose would be found extending over the alveolar procsss. * * * In the last ten years I have had two patients come to me who have had openings drilled from the palatine root of the first molar tooth into the floor of the nose. I thought that the person who operated upon these jaws must have had a poor knowldge of the anatomy of the parts. * * * In examining these 6,000 antra I found the lowest point was invariably situated between the root of the second bicuspid and the first permanent molar. * * * Therefore the proper place [for entrance and drainage], according to the examinations made, would be just midway between the root of the second bicuspid and the first permanent molar, on the outside of the alveolar process."

No less important are the findings of Dr. Holmes regarding the anatomical relations of the sphenoidal cavities founded upon the tabulated measurements of fifty specimens. Contrary to the statements of certain authoritative anatomists, he established that "the ostium sphenoidale is *not* behind the posterior end of the middle turbinated, but above, the shortest distance being 7 *mm.*, and the longest 16, and the average 12 *mm.*" Again, contrary to the statement of another noted authority, in not a single one of the fifty specimens did Dr. Holmes find an opening from the sphenoidal cavity to the posterior ethmoidal sinus, and hence he infers that such does not exist, "except as a rare anomaly, or in disease." Eighteen times (39 per cent.) it would be possible to enter the sphenoidal opening by means of a probe, and 28 times (61 per cent.) it would be impossible. The thickness of the anterior wall near the roof varies from 0.15 *mm.* to 2 *mm.*, and that of the roof fluctuates from dehiscence to 3 *mm.*, the average being 0.8. "Average cubic contents, 6.67 *cm.* Very important are the measurements of the bone thickness between the sphenoidal cavity and the foramen opticum. In two cases dehiscence existed, and in fourteen the bone was classified as being "like paper." Dr. Holmes from these last measurements deduced anatomically that: "It is from extension of the disease existing in the sphenoidal cavity through this thin wall that many cases of obscure retrobulbar neuritis develop, and often end in blindness. Clinically he supports this view by reporting three of his own cases, in one of which there was unrecognized empyema of the left sphenoidal sinus, intense headache, total loss of sight in the left eye, and in which, on opening the cavity, there was a liberation of pus and recovery of vision. The second case was one of unrecognized empyema and necrosis of the sphenoid, visual disturbance, and finally cerebral hæmorrhage and death. The autopsy disclosed a blood-clot, covering the area of the sella turcica, anterior clinoid process, and optic chiasm, extending forward toward the cribriform plate. The dura and bony roof over the sphenoidal cavity had been entirely destroyed, and from the location and appearance of the clot, it was evident that a vessel in the region of the cavernous sinus had become eroded and ruptured. The third case was one of empyema of the sphenoidal, ethmoidal and frontal sinus, which had led to cerebral abscess and death.

To return to the discussion in the Chicago Academy of Medicine: As to the frequency of disease of the accessory cavities, the startling announcement made a year ago by Fraenkel, was cited, namely: that in 146 unselected autopsies of cadavers, as they occurred in the post-mortem room at Hamburg, he found no less than 63 instances—that is to say, 40 per cent.—in which there was involvement of one or more of the accessory cavities of the nose. He found one cavity involved thirty-seven times; two cavities, eighteen times; three, six times; four, one time; and all six cavities (two frontal, two sphenoidal and two maxillary sinuses), one time. In no instance did he find disease of the ethmoid sinus. These were unselected autopsies. Some of the diseases predisposed to inflammatory involvement of the sinuses, especially pneumonia and cerebro-spinal meningitis, in which instances a very large percentage of sinus disease was present, more so than in the chronic forms of disease. In peritonitis also a large number of instances were met with, several of them apparently due to the presence of the colon bacillus. The findings of Wolff and Harke were also cited. Wolff found, in twenty-two cadavers of children dead of diphtheria, maxillary sinus involvement in every instance, and the sphenoidal sinus diseased in every instance in which it had developed. In fifteen it was undeveloped on account of age, while in seven cases in which it existed, it was diseased. The involvement was specified as catarrhal or diphtheritic, according to the character of the disease in the nasal fossæ. Similarly, Harke found, of thirty children dead of infectious diseases of the air-passage, like croup, diphtheria, measles, whooping-cough and scarlet fever, suppuration of one or more cavities in all instances; while of thirty-seven adults dead with acute infectious diseases there were thirty-one cases of sinus involvement.

The essayist stated, with good reason, that "while we know practically nothing as to the pain produced in acute affections of the sphenoid and ethmoid sinuses in the acute form, though we do of those of the frontal and maxillary cavities, in all probability, however, he believes, that many of the headaches and neuralgic pains occurring in acute diseases are in reality due to the involvement of either the sphenoidal or ethmoidal sinuses. He concludes also that most of the acute troubles are transient, and ultimately cease even without treatment; and that it is rather questionable whether we are called upon to treat them actively, as the treatment would necessarily be of a surgical nature. The bulk of clinical works, of course, pertains to chronic affections of the sinuses, and Dr. Gradle found, that the reason of his failures in his earlier cases was insufficient drainage; not because his opening was not sufficiently patent, but because he did not recognize the fact that the pus is so tenacious that it will not drain from the maxillary sinus. He now punctures through the alveolar process, and using frequent irrigation, which the patient carries out at home two or three times a day, his results have been much better.

In the discussion, all the speakers agreed that the transillumination could not be depended upon in making a diagnosis of antrum disease, and that experience had also demonstrated that drainage through the mouth is the most unsuccessful method of all, an opening through the anterior wall of the antrum or from the anterior part of the inferior nasal meatus under the turbinated, being much more effectual. As to the etiology of antral disease, and the common opinion of dentists and some physicians that it is in most cases due to abscessed molar teeth, Dr. Talbot stated that his researches forced him to conclude, with Dr. M. H. Fletcher, of Cincinnati, that this is an error. Dr. Fletcher, in 1,000 antra found 252 upper molars abscessed, making 25 per cent. of the antra which had abscesses in this locality, or one for every fourth antrum. "Out of the 252 possible cases, perforation into the antrum was found only twelve times, thus showing over 4½ per cent., or about one in every twenty-one of the abscessed teeth in this locality which are connected with the antrum." In the treatment of 367 cases of pulpless molar teeth, Dr. Talbot only found 3 per cent. of diseased antra; and Dr. Fletcher, in 224 cases of such teeth, found pus in the antrum only once.

The value of accurate anatomical knowledge of the relations of the nasal accessory cavities in interpreting certain symptoms, is well illustrated by Dr. Holmes' analysis of his cases of sphenoidal sinus disease. In his first case, dull pain in the left side of the head and face, aggravated by colds, together with intense and constant neuralgia of the first division of the fifth nerve, he found clearly due to retention of pus when the ostium sphenoidale was closed by swelling of the mucous membrane and turbinated bodies, and to the extension of inflammation through the thin walls of the sphenoidal cavity into the sphenoidal fissure, causing first irritation, then pressure, on the fifth nerve, while the blindness, exophthalmus and congestion were due to the same inflammation extending through very thin bone to the optic nerve, and also strangulating the ophthalmic vein. F. B. E.

THE TWELFTH INTERNATIONAL MEDICAL CONGRESS.

It would seem as though something like a palsy had fallen on the Twelfth International Congress, to be held at Moscow, August 18-27, 1897. Professor Erismann, of the Institute of Hygiene, was the energetic and able Secretary-General, and was earnestly engaged in putting in motion the machinery which would in due time have drawn together an aggregation of scientific stars equal to that which assembled at Berlin or at Rome. But a too free expression of opinion on Russian political affairs caused the removal of the Secretary-General from his post and the stoppage of the machinery, and in the meantime the Congress feels his absence keenly.

The Department of Laryngology is under the able charge of Dr. Stepanow of Moscow, president of the section, Heryng, of Warsaw;

Lomikowsky, of Krakow; Simanowsky, of St. Petersbourg, and others. That of Otology, under Dr. von Stein, of Moscow, Byer and others. Among the subjects set for discussion are: Suppurative Inflammation of the Frontal Sinus; Cancer of the Larynx; Progress of the Specialty; The X-Rays Applied to the Larynx; and Photography of the Larynx. In Otology: Physiological Investigations of the Labyrinth; Surgical Treatment of Sclerosing Inflammation of the Mastoid; A Study of the Question of Cholesteatomata, and other subjects. Nothing very new or epoch-making is noticeable in this program, but all the proposed papers deal with matters of much practical importance. G. S. R.

CONTRIBUTIONS TO THE MARCH ISSUE.

The March issue of The Laryngoscope will contain the following list of original articles, besides editorials and the usual condensation of the principal articles from current literature:

Dr. Gottlieb Kicer, Copenhagen, Denmark: "Perichondritis of the Nose."

Dr. A. G. Hobbs, Atlanta, Ga.: "Some Amusing Instances of Nasal Reflex."

Dr. J. Walter Park, Harrisburg, Pa.: "Report of Interesting Nose and Throat Cases."

Dr. Lewis S. Somers, Philadelphia: "The Lingual Tonsil."

Dr. S. C. Ayres, Cincinnati: "Report of Cases of Mucous in the Cavity of the Tympanum."

Dr. J. B. Keber, St. Louis: "Report of Cases."

Dr. William Porter, St. Louis: Subject unannounced.

SELECTIONS FROM CURRENT MEDICAL PUBLICATIONS.

RHINOLOGICAL.

Antisepsis and Intra-Nasal Medication.

Dr. St. Clair Thompson states that when the interior of the nasal fossæ are practically aseptic, it is not necessary to make them more sterile (*Revue Int. de Rhin.*, *Otol. et de Laryng.*, Oct., 1896).

The presence of a foreign body in the nose excites the mucous secretion, and the vibrations of the ciliated epithelium tend to expel rapidly every solid particle which comes in contact with it. It is therefore advisable to abstain from intra-nasal medication except in special cases.

In order to free the nasal fossæ from purulent masses, it is preferable to use solutions of an alkaline character rather than strong antiseptic solutions. It is especially necessary to disinfect the fingers and instruments which are to be introduced into the nose. After an operation the instruments should be washed in a 5-per-cent. carbolic solution, kept in a closed case, and washed again in the same solution before they are used, when they will be sufficiently aseptic. The art of antisepsis consists especially in giving great attention to small details.

W. S.

Ozena, Its Origin and Its Treatment by Interstitial Electrolysis.

Dr. Bayer, after having given a resumé of the present theory of ozena from a bacteriological standpoint, gives the results which he has obtained by the interstitial cupric electrolysis of Cheval (*Revue Hebd. de Laryngologie*, May 30, 1896). This treatment is very efficacious, but it is not without danger; and it should be employed only with the greatest care. In seven cases, there were six with marked improvement, but two were attacked with otitis after the operation, of which one died twenty days after the operation in a meningitic coma. One sitting of electrolysis is sufficient to modify the secretion and to cause the odor to disappear. In another case the ozena gave place to a chronic catarrhal condition, but without fetor. Sometimes the action of electrolysis is not limited to the side on which the application is made, but extends to the other nasal fossa, and even to the nasopharyngeal cavity.

The author then discusses the bacteriology of ozena. He considers it an atrophic neurosis, with abnormal secretion, which forms a suitable medium for the culture of cocco-bacillus of Loewenberg and Abel. The best treatment is interstitial electrolysis, which is almost specific, but is not free of danger. It should be applied only with the consent of the patient, who should be informed of the effects. Two or more sittings are necessary, and weak currents of six to eight milliampères should be used.

W. S.

Sozoiodole in Rhino-Laryngology.

Bresgen, Böhn, Seiffert, Morris Schmidt, and others, recommend the different sozoiodole salts in the varied conditions affecting the upper air-passages (*Am. Medico-Surg. Bulletin*). In swelling of the mucous membrane, with mucus collections, the sodium combinations are suggested. They are used in powder form. The zinc preparations are employed with good results in atrophic conditions. Flatau, of Berlin, has used the following ointment with advantage in the treatment of fetid atrophic rhinitis. It is applied by means of tampons.

℞	Sozoiodole-zinc	1 to 2 parts.
	Vaselin	8 parts.
	Lanoline	8 parts.
	Liquid paraffin	q. s. to make a soft ointment.

This combination never produces symptoms of irritation.

M. D. L.

Nasal Obstruction and the Symptoms of Cardiac Disease.

In a very interesting and practical paper upon the importance of examining all cardiac cases in which a seeming failure of compensation takes place, Dr. G. A. Lockwood (*N. Y. Med. Journal*, Jan. 16, 1897) attracts attention to a subject which is deserving of further study. He mentions dyspnœa as the most important symptom and the earliest evidence of failing compensation, and gives various general causes for its appearance. To these he adds nasal obstruction, as being "hitherto neglected and undescribed." Patients suffering from heart affections, according to his opinion, are more subject to nasal obstruction than those with normal hearts. This clinical observation is supported by theoretical arguments: Cardiac disease is most frequently found in rheumatic and gouty individuals. These dyscrasiæ favor catarrhal manifestations of the mucous membranes. The structure of turbinated tissue readily allows congestion and great enlargements, which conditions are among the early signs of general venous congestion that attend a failing heart. Headache, drowsiness, mental hebetude, and other symptoms are secondary to an insufficient supply of good air. With a retarded oxidation of the blood, the arteries become irritated, and, by contracting, increase the resistance, and thus force more work upon the heart.

Eight cases, with distinctive histories, are recorded in whom the failing heart-action was promptly benefited by correcting the nasal obstruction. In some, ecchondromata were removed, while in others the turbinated enlargements were reduced. The conclusions reached by the author are as follows:

1. It is highly probable that patients with cardiac disease are more subject to nasal obstruction than others.

2. Nasal obstruction, occurring in a patient with cardiac disease, may upset the balance of respiratory compensation, and produce decided symptoms.

3. Unless care be taken these symptoms may be mistaken for those of failing compensation, and may lead to a gloomy prognosis and a faulty treatment.

4. Unless the nasal obstruction be properly relieved, and the patient allowed a sufficient quantity of good air, the arterial spasm may possibly occur, throwing an increased amount of work on the heart, already handicapped, and may become a factor in inducing dilatation. The effect of the poor quality of the blood thus supplied to the endocardium must also be taken into consideration.

5. Nasal examination made during the day may not reveal the actual obstruction, which is most apt to appear at night, when the patient is recumbent and the circulation is in its most sluggish state. To the congestion of the posterior portion of the inferior turbinated bodies thus induced the characteristic nocturnal attacks are to be ascribed, through the medium of asphyxia and arterial contraction. Nasal examination, however, usually reveals extreme vasomotor irritability of the turbinated bodies.

6. In cases of cardiac disease, including angina and pseudo-angina pectoris, no estimate of the patient's condition can be made, and no rational treatment can be inaugurated without a thorough examination of the patency of the upper respiratory passages. M. D. L.

New Method of Dilating Strictures of the Eustachian Tube by Means of the Galvanic Current.

This treatment is indicated in cases where Politzeration or catheteriztion does not prove successful in inflating the middle chamber. In such instances there is a narrowing or stricture of the tube. To overcome this obstruction, Dr. Arthur B. Duel (*N. Y. Med. Journal*, Jan. 16, 1897) has devised an electro-therapeutic instrument, believing that the "negative pole of the galvanic current retards the excitability and growth of tissue, and causes exudates to be re-absorbed. The instruments employed are "copper bougies, varying from No. 3 to No. 6 (French scale), securely mounted on No. 5 piano wire. These are passed through small, insulated, fine silver catheters, and drawn back until the bulging portion of the bougie fits tightly in the mouth of the catheter."

The positive pole is placed in the hand of the patient. It is emphatically stated that the current shonld be controlled by a perfect rheostat and milliampèremeter. The bougie is passed through the tube in the usual manner, the tip being pushed forward until it meets the obstruction. The current is then slowly turned on until from two to five milliampères are used. It is not necessary to give more than this quantity at any time. Contact should be kept up for not more than five minutes, at the end of which period the bougie can be passed through the softened stricture. The current should always be turned on and off gradually; never suddenly. Good results are reported by this treatment. No histories were given in this preliminary report.

M. D. L.

LARYNGOLOGICAL.

Diphtheria Antitoxin.

The conclusions of Dr. E. W. Robertson (*Gaillard's Med. Jour.*) are:

1. Antitoxin is a therapeutical measure of importance.

2. It is powerful for good in the great majority of cases, especially if used in the incipiency of the case.

3. "Delay is dangerous," for, in proportion as the system is saturated with the disease germs, in same rate are chances of victory for antitoxin lessened. The great need in the proposition is this: Permeate the tissues and blood with antitoxin early enough to assist the recuperative powers of nature.

4. Wiser to use a moderate dose as curative and minimum as preventive; but dosage not positively agreed upon. One party favors large doses—even larger for a child—to destroy the powerful germs (or antagonize); other, smaller doses, so as not to endanger disorganization of blood globules. The requirement is proper dosage, but it is most evident that minimum is preferable to maximum dosage, as already intimated, for this reason: Intact red blood-globules are

more important (admitting their liability to injury by serum) to the economy, than deficiency of antitoxin, especially when used early. Besides, antitoxin can be repeated, upon this principle, viz.: Powerful remedies can be borne better in small, repeated doses, than in one large one. This is in accordance with established principles of therapeusis generally.

5. Recent antitoxin is safer.

6. There never was a drug of power that has not shown some untoward results, or that, at times, has not utterly failed.

7. It is agreed that the hypodermatic method is the plan. Antitoxin is inert (or without effect) per rectum, unless through a broken surface.

8. Doubt about the diagnosis of diphtheria, or bacteriological results, is not imperative (at least need not delay treatment), and need not forbid the use of antitoxin. It is used to immunize those liable to be attacked, and, if, so, why not employ it to counteract supposed poison already existing?

9. I conclude that this question is unsettled, namely, whether it is a practitioner's duty to practice sero-therapeusis. S. S. B.

Diphtheria Bacillus and the Roentgen Rays.

Berton, in the *Bull. Gen. de Therapeu.*, states, as a result of experiments made by him, that cultures of the diphtheria bacillus are not influenced by the Roentgen rays; they are as virulent after sixty-four hours' exposure as before such treatment. S. S. B.

Loeffler's Solution.

Loeffler's solution in the treatment of diphtheria (*Med. Summary*). The solution consists of:

Alcohol	60 parts.
Toluol	36 parts.
Liq. ferri perchloride	4 parts.

For the relief of pain menthol may be added. The infected patches are to be swabbed with this every two to four hours.

Throat Examination in Children.

Dr. J. D. Milligan (*Med. Record*) teaches his young patients to use their index finger as a tongue depressor. He claims that the child will readily consent to this method of procedure, and that after a few trials they will learn to put the end of the finger near the base of the tongue, so that a good view of the fauces can be obtained.

Ozone in Cancer of the Larynx.

Sir John E. Millaise, the celebrated painter, was almost entirely relieved of the terrible distress, attendant upon the latter stages of his malady (*N. Y. Med. Times*) by the use of ozone. The gas was conducted from a reservoir direct to the tracheotomy tube. It kept him alive and free from pain during the last three months, and also prevented the odor usual to cancer. Practically, no narcotics were used.

Mirror Speech.

Dr. Grasset (*Progress Médicales*, Dec. 5, 1896; *Journal of Am. Med. Assoc.*, Jan. 2, 1897) reports the case of a woman affected with hysteria major, and since insane, who reversed the letters of entire words, pronouncing them as if spelled backwards, with absolutely amusing rapidity and correctness. W. S.

Division of the Cervical Sympathetic Nerve in Cases of Exophthalmic Goitre.

Dr. Jaboulay has practiced division of the cervical sympathetic nerve in two cases of exophthalmic goitre, with resulting diminution in the prominence of the eyes. (*Lyon Médical*, 1896; *Medical News*, Oct. 17, 1896). Both nerves must be divided, but the result is not always symmetric, as one of the nerves may be larger than the other and thus capable of more pronounced activity.

The operation is believed to be justifiable in accordance with the intensity of the symptom. W. S.

Hæmorrhage From Foreign Body Lodged in The Œsophagus.

At a meeting of the Society of Physicians, Vienna, December 4th, 1896, Hochenegg showed a patient upon whom he had operated (*Med. News*). The hasty swallowing of large mouthfuls of food give rise to intense pain. No foreign body could be detected by the sound, and it was inferred that the œsophagus had been lacerated. Several serious hematemeses occurred, and a swelling appeared in the left side of the neck below the thyroid. The abscess was opened, and a piece of chicken bone, which had pierced the œsophageal wall, was removed. The ulceration had eroded the wall of a dilated vein and so produced the bleeding. Hæmorrhage from a foreign body in the œsophagus is undoubtedly rare. In 180 cases it occurred but ten times. Of these cases, but one was saved. It usually appeared after the sixth day, consequently was due to ulceration. The author states that one cannot rely upon the sound, but adds that the œsophagoscope is of considerable value in arriving at a diagnosis. M. D. L.

OTOLOGICAL.

Treatment of Labyrinthine Vertigo.

"Labyrinthine vertigo is easily confounded with that due to disease of the nervous system (Gellé in *Annalés des Mal. de l'Orielle*, etc.). The former frequently succeeds to lesions of the middle ear, but not less often may be associated with cerebro-spinal or mental affections. In the first case the labyrinth is forgotten, the attention being fixed upon the middle ear; in the second case all is attributed to the encephalon, or to cerebral troubles, and the same mistake is made.

"The labyrinthine origin of the disturbances of movement and of equilibrium is anatomically explained by the intimate connection of the vestibulary and ampullary nerves with the cerebellum and its peduncles."

Gellé adds a clinical observation, frequently made, that working upon the ear, the use of Politzer's bag, etc., produced vertigo.

Labyrinthian vertigo presents two characteristics:

1. It is constituted by motor disturbances analogous to those seen in experiments upon animals.

2. It is also composed of sensorial, circulatory, vaso-motor and sensitive disturbances, producing various hallucinations and sensations.

1. *General Treatment.*—The patient must be protected from falling; should not be alone out-doors, as noise of carriages in the streets might bring on an attack; the aura, frequently observed, will serve to warn the patient. The vomiting should be foreseen; a few swallows of chloroform water with orange-flower water, several drops of ether or amyl nitrite placed under the nose, fresh water upon the face—all may be employed to abort or relieve an attack. If vomiting continues, Riviere's potion, a little ice or iced champagne, and rest in bed is recommended.

2. *Treatment of Vertigo Due to Concussion and Compression in Middle-Ear Affections.*—Diseases of the tympanum produce the greatest number of the lesions which render possible the concussion and compression of the labyrinthine nerve. The conditions predisposing to this form of vertigo are: polypi of the tympanum or canal, retention of intra-tympanic exudations, ankylosis of the ossicle, adhesion of the stapes, obliteration of the round window, etc. In these conditions the slightest vascular congestion, reflex spasm of the tensor, the action of chewing or blowing the nose, insufflation of air by the tube, centripetal pressure, rarefaction, may cause the various vertiginous symptoms.

Artificial aeration of the tympanum, and rarefaction, tend to re-establish the normal tensions and to free the labyrinthine pressure. Also the surgical measures indicated: removal of the membrana-tympani and ossicles, disengaging the round and oval windows, cutting the tendons of the stapedius and tensor tymp., etc. Symptomatic therapeutics should not be neglected.

3. *Treatment of Vertigo Connected with Labyrinthine Hæmorrhage.*—The internal ear is susceptible of being altered by various intra-labyrinthine processes. These are primary or secondary to affections of the tympanum or petrous bone, or of the meninges and the encephalon.

Among the intra-labyrinthine lesions, labyrinthine hemorrhage stands first. The picture is readily recognized: sudden deafness and vertigo, whistling noises—all occurring in a few hours or days.

Hypodermic injections of ergotine to arrest the hæmorrhagic effusion; milk, and laxatives; local treatment is generally abandoned. In addition, Gellé advises large incisions of the membrana-tympani to aerate the tympanum, and the application of blisters or the actual cautery upon the mastoid region and nape of the neck. Pilocarpine in hypodermic injections with the iodides, and even the mercurials, hasten resolution. Two months of treatment are necessary.

4. *Treatment of Vertigo Complicated with Labyrinth Congestion.*—Gellé differentiates labyrinthine hemorrhage from labyrinth congestion. Clinically this is a very delicate diagnosis. The progress of the disease is the main point in the differentiation.

The same therapeutics in such cases should be employed. In addition, active congestions should be treated as acute inflammations.

5. *Treatment of Vertigo Caused by Anæmia of the Labyrinth.*—The trio of symptoms of labyrinthine affections — vertigo, subjective noises and deafness — are also observed in anæmic conditions of the internal ear; in syncope the preludes are auricular.

With deaf patients, flooding, diarrhœa, maladies from lack of general nutrition, cause an anæmia which increases the deafness and renders it total if it was partial. Repeated pregnancies, prolonged lactation, canvalescence from protracted illness, albuminuria, cachectic affections, and other conditions of weakening of the circulation, cause labyrinthine vertigo of an anæmic character.

In this subdivision of vertigo, the reconstructives, iron, glycerophosphates, a tonic regimen, repose, change of scene, milk diet, iodides, etc., are indicated.

6. *Treatment of Vertigo from Labyrinthitis.* — Fever, delirium, vertigo, deafness, and paresis of the inferior members occur, with persistent deafness. This is a clinical description of labyrinthitis.

As hereditary, as well as acquired, syphilis is frequent an etiological factor in acute inflammations of the labyrinth, the iodides and specific treatment should be given a good trial. Gellé states that he would not hesitate to perform paracentesis of both drum-heads, and prescribe calomel and the revulsives, as if the affection were located in the middle ear. Quinine sulphate is still the greatest resource in persistent vertigo following these diseases of the internal ear.

7. *Treatment of Vertigo with Labyrinthine Hyperæsthesia.*—Under this sub-division, abnormal sensibility to noise, painful hearing, aversion to music, etc., are classed. Examination often reveals an old aural lesion, sclerosis, with or without adhesion, ankylosis, caries dating from infancy, etc.

Quinine sulphate is here the symptomatic medication par excellence. It should be given, by Charcot's method, persistently, by series of ten days, separated by rest, 0.60 centigr. daily, gradually raised to 1 gramme as renewed. Complaints of the patient need not be considered.

8. *Treatment of Reflex Labyrinthine Vertigo.*—The internal ear is the point of departure of reflex motor phenomena, either for binauricular accommodation or for audition.

Reflex vertigo may be observed with or without lesions of the ear. It is clinically indisputable that affections of the stomach—dyspepsia, uterine affections, hæmorrhoids, pulmonary maladies, great sorrow, prolonged suffering—all have the power of arousing vertiginous crises, even in the absence of any predisposing otitic lesions.

Of course, treatment of such conditions is to be directed to the original exciting factor or organ.—*Annals Oph. and Ot.*

BOOK REVIEWS.

Autoscopy of the Larynx and the Trachea.—(Direct Examination Without Mirror). By Alfred Kirstein, M.D., Berlin. Authorized Translation (Altered, Enlarged, and Revised by the Author) by Max Thorner, A.M., M.D., Cincinnati, O. With Twelve Illustrations. One Volume, Crown Octavo, pages xi-68. [The F. A. Davis Co., Publishers, Philadelphia, New York and Chicago. Price, 75 cents.

Considerable interest has been aroused in laryngological circles by the presentation of this new method of examination of the larynx, and if hopes are realized it will certainly be an important contribution to laryngology.

Through the activity and work of Dr. Max Thorner, of Cincinnati, this method, first suggested by Kirstein, is presented for the consideration of our American colleagues in the little volume now before us.

The well-printed, 68-page book gives the details of the method, with illustrations of the apparatus used, position of the patient, technique, etc.

We await the verdict regarding the practicability of this method with much interest.

Medical Bulletin Visiting List, or Physician's Call=Record.—In three styles and sizes. Leather-bound, with flap and pencil. [Published by the F. A. Davis Co., Philadelphia. Price, No. 1, $1.25; No. 2, $1.50; No. 3, $1.75.

The special feature of this excellent and handy visiting list is the arrangement of the blanks for the recording of visits; by means of a simple device consisting of stub and half-leaf insertions, it is necessary to write each patient's name only once per month; the blanks are made into removable sections, and are interchangeable; this is a labor-saving, practical idea, and makes this a very useful companion to the physician.

The Effects and Local Manifestations of Syphilis in the Upper Air=Passages.—(*Die Wirkungen der Syphilis in den Oberen Luftwegen und ihrē örtlichen Erscheinungen*). By Dr. E. Fink. [Halle: Karl Marhold, 1896. Price, 50 cents.

This monograph of 60 pages, one of a series of practical essays on laryngological topics, edited by Dr. M. Bresgen, will be of great interest to the specialist and general practitioner alike. It is evidently written from this standpoint, and shows not only that the author is fully conversant with the literature of the subject, but that he has also an extensive personal experience with the topic under consideration.

After a short and interesting historical introduction, he treats systematically, in three chapters, of the primary, secondary, and tertiary manifestations of syphilis in the nose, pharynx and larynx, giving a detailed account of the symptoms, differential diagnosis and treatment of the affection. His descriptions are concise, but lucid, and his views are those held at present by the most advanced laryngologists and syphilologists. The booklet will repay reading. M. T.

ANNOUNCEMENT.—E. B. Treat, publisher, New York, has in press, for issuance early in 1897, the *International Medical Annual*, being the fifteenth yearly issue of that well-known one-volume reference work. The prospectus shows that the volume will be the result of the labors of upwards of forty physicians and surgeons of international reputation, and will present the world's progress in medical science.

The publisher states that the kind reception accorded to the *Medical Annual* has rendered it possible for him to spare no expense in its production, while the editorial staff have devoted a large amount of time and labor in so condensing the literary matter as to confine the volume within a reasonable size without omitting facts of practical importance.

The value of the work will be greatly enhanced by the thoroughness of illustration; both colored plates and photographic reproductions in black and white will be used wherever helpful in elucidating the text.

"To those who need the condensed and well-arranged presentation of the medical advances of the past year—and this class must necessarily include all physicians—we heartily commend the *International Medical Annual.*

"The volume will contain about 700 pages. The price will be the same as heretofore, $2.75. Full descriptive circular will be sent upon application to the publisher."

"Anomalies and Curiosities of Medicine," being an encyclopedic collection of rare and extraordinary cases, and of the most striking instances of abnormality in all branches of medicine and surgery, derived from an exhaustive research of medical literature from its origin to the present day, abstracted, classified, annotated, and indexed. By George M. Gould, A.M., M.D., and Walter L. Pyle, A.M., M.D. Forming one handsome imperial octavo volume of 968 pages, with 295 illustrations in the text, and 12 half-tone and colored plates. Sold by subscription. Address the publisher. [Philadelphia: W. B. Saunders, 925 Walnut street. Price, cloth, $6; half-morocco, $7. This book will be ready for delivery in February. It promises to be very interesting and valuable, as it will be the only such reference book so far published.

MISCELLANEOUS NOTES.

Tri-State Medical Society.

The Fifth Annual Meeting of The Tri-State Medical Society of Iowa, Illinois and Missouri, will meet in St Louis, April 6th, 7th and 8th, 1897. A large number of valuable papers will be read. Dr. Joseph Price, of Philadelphia, will hold the Surgical Clinic; Dr. James T. Whittaker, of Cincinnati, the Medical Clinic; and Dr. Dudley Reynolds, Ophthalmic Clinic. Dr. G. Frank Lydston, of Chicago, will entertain the members with an original story during one of the evening sessions. The officers are:

A. H. CORDIER, M.D., Pres't, Rialto Bldg., Kansas City.
HUGH T. PATRICK, M.D., 1st Vice-Pres't, Chicago.
H. C. ESCHBACH, M.D., 2nd Vice-Pres't, Albia, Ia.
G. W. CALE, M.D., Sec'y, 4403 Washington Boulevard, St. Louis.
C. S. CHASE, M.D., Treas., Waterloo, Iowa.

The preliminary program will be published in next issue.

Dr. H. V. Wurdemann has removed from 805 Grand Avenue to Suites 40 and 41 Pierce Building, No. 128 Wisconsin St., Milwaukee.

To Isolate Consumptives.

The New York Health Board has passed an amendment to the sanitary code, declaring pulmonary tuberculosis to be an infectious and communicable disease, and requiring physicians to report all cases coming under their observation.

The board proposes to treat consumption in the same manner as cases of other contagious or infectious diseases of a mild nature. Isolation will be ordered if the circumstances require such a course.

New Definition for a Pharmacist.

In a recent trial in California, in which a pharmacist was charged with practicing medicine without a license, according to the *Pacific Med. Journal*, the counsel for defendent stated "that a pharmacist is one who administers medicine, as a rule, more acurately than the physician, and does not charge as much for doing it." The jury did not see it that way—guilty.

Dr. J. W. Sherer, of Philadelphia, will be associated with Dr. Würdemann after January, 1897.

Dr. C. W. Root, who has been with Dr. Würdemann for two years, has gone to Philadelphia.

The New York Polyclinic building was completely destroyed by fire on the morning of December 25th, 1896. Arrangements have been made for continuing the lectures and clinics in other quarters.

Dr. Dunbar Roy was married December 16th, 1896, at Richmond, Va., to Miss Carrie Ellis. We tender our congratulations.

Dr. W. K. Simpson has been appointed surgeon to the Throat Department of the New York Eye and Ear Infirmary.

The American Laryngological, Rhinological and Otological Society (Southern Section).

The meeting of the Southern Section of the American Laryngological, Rhinological and Otological Society will be held at the New St. Charles Hotel, New Orleans, March 3, 1897, the session to commence at 10 A. M.

Members intending to present papers or desiring to have them read by title, and who have not yet sent the titles of their communications, are requested to do so at once, so as not to delay the preparation of the program. Members intending to be present at the meeting will please forward their names at least two weeks before the date of the meeting, so that the question of club privileges and opportunities for permitting visiting members to take part in the Mardi-Gras Carnival festivities may be arranged by the Reception Committee.

W. SCHEPPEGRELL, M.D.,
Chairman South. Sect. Am. L. R. O. Society.

The programme of this society will be announced in the March issue of THE LARYNGOSCOPE. and a synopsis of the proceedings, with many of the most interesting papers in full, will be given in the April issue.

THE

LARYNGOSCOPE.

Vol. II. ST. LOUIS, MO., MARCH, 1897. No. 3.

ORIGINAL COMMUNICATIONS.

PERICHONDRITIS OF THE NOSE.

GOTTLIEB KEISER, COPENHAGEN, DENMARK.

Primary acute perichondritis is characterized by its sudden appearance in otherwise healthy individuals, where every etiological factor, such as syphilis, tuberculosis, trauma, etc., have been excluded; it is ushered in with a high fever, redness, and swelling of the nose and adjacent tissues, and accompanied by a serous or purulent exudate from the involved areas.

ACUTE PURULENT PERICHONDRITIS.

Primary, purulent perichondritis is a rarity, and the cases of this affection cited in literature are easily enumerated. J. Moure (*Revue Mens. de Laryng. et Otol.*, 1888) relates the case of a girl, æt 23 years, who was exposed to the cold while riding in an open carriage; shortly after, a high fever developed, intense frontal headache; the nose and adjacent parts of the face grew red, swollen and sore, the mucous membrane congested and swollen, protruding from the apertura narium, quite filling both nostrils; spontaneous rupture of both tumors, with evacuation of pus and blood followed; a collapse of the dorsum nasi was noted. Kuttner (*Archiv. für Laryngologie*, vol. 2, 1894) published three cases, very similar in their course to that of Moure's; in one case, the soft and hard palates were also involved, and perforation and discharge of a sequestrum followed. Schrader (*Berliner Klin. Woch.*, 1893, p. 1124); Voltolini (*Die Krankheiter der Nose*, 1888); B. Delavan (*Archives of Laryngology*, vol. 4, No. 2, 1883); Lublinsky (*Berliner Klin. Woch.*, No. 1839, p. 1124); Roe (*Trans. 14th Annual Meet. Amer. Laryng. Ass'n.*, 1893); each mention similar cases.

In Voltolini's case there is some doubt whether the patient's condition was primarily that of perichondritis, as three cases of facial erysipelas had developed in the same neighborhood, and it is natural to conclude that this case developed as a result of the erysipelas. In Roe's case the patient had had a tooth filled three days prior to the development of the periostitis, and probably the inflammation had extended to the septum through a root-periostitis.

In Schmiegelow's private clinic the following case occurred: Boy of 7 years, previously always healthy, complained of sudden violent pains in the nose; vomiting, profuse sweating, intense headache and no appetite. Next day nose was swollen; swelling gradually increased; lethargic and dull in appearance; œdematous eyelids; skin of nose red and glistening; nasal air passage occluded by fluctuating, bilateral tumor; septum greatly thickened; free incisions made through the tumors, and considerable putrid pus was evacuted; iodoform gauze tampon applied; later, hot fomentations were applied, and irrigation with boric acid solution; ten days after the operation, the swelling had subsided, no pus, nasal respiration restored, but septum was still thickened.

ACUTE SEROUS PERICHONDRITIS.

We may further note that the serous form of perichondritis occurs in identical manner as the purulent form; the inflammatory reaction is phlegmonous in character, with the one difference that the contents are of a serous character. There is but little mention made in literature of perichondritis serosa. Velpeau (*Gazette des Hopitaux*, 1860) was the first to describe it; a case has been cited by Jurasz (*Deutsche Med. Wochenschr.*, No. 50, 1884) of a girl, æt. 10 years, who, 8 days after an attack of facial erysipelas had both nostrils filled with a bright red tumor, round as a ball, protruding symmetrically from both nares, and communicating with the septum; on incision, a clear, serous extract fluid was evacuated.

In the *Polyklinik of Copenhagen*, 1890, a similar case was observed. Andrew I., aet. 31 years, was confined to the hospital with erysipelas; ten days after his discharge, he presented himself, complaining of pain in nose; examination revealed a great œdema of the tissues about the cartilagenous septum, which soon developed into an intense, red, fluctuating tumor.

Fischenich reports two cases. In the first, the etiology is obscure; girl of 12 years, complained, for ten days, of pain in face and neck; nose swollen and red; nasal respiration impaired; a soft, red tumor developed in a few days, finally protruding from both aperturæ narium, thus completely shutting off nasal respiration; a depression along the entire length of the dorsum nasi was noted; on incision a clear serum was evacuated; probing showed a large perforation in the cartilago quadrangularis.

The second case was that of a girl, aet. 14 years, with carious teeth in upper jaw; a sudden pain and swelling of the alveolor mucous membrane developed, especially pronounced in the median line of the jaw; at the same time a similar swelling developed in the nose, and the conditions presented were almost identical with the previous case cited. Here also a perforation of the septum was discovered; four weeks after incision and evacuation of the clear, serous fluid, the perforation was healed. The perichondritis had probably been provoked by a periostitis, due to carious teeth.

From the limited number of cases which literature furnishes of these affections, it will be seen that they are very rare; still they are not peculiar to the septum alone; they also occur in the external ear and in the larynx (Schrader).

The differentiation of purulent from serous perichondritis at the outset is impossible, as both forms begin with the same manner of phlegmonous symptoms; tumors are formed on both sides of the cartilago quadrangularis, frequently communicating by a necrosis or perforation of the septum. Exploratory probing is the only definite method of determining the exact condition of things.

SOME AMUSING INSTANCES OF NASAL REFLEX.*

BY ARTHUR G. HOBBS, M.D., ATLANTA, GA.

It was not without some misgivings that I thus christened this little paper, because some might regard it as a too flippant manner of approaching so scientific a subject as nerve reflexes, a subject fraught with such subtilties and as yet so suggestive of unknown quantities. Also, because there may be others who can never look upon nature's phenomena as amusing, however vagarous and unexpected they may at first appear.

While these instances of nerve reflex manifestations that I have dared to call amusing are no more wonderful than many others somewhat similar, but more familiar to us all by reason of their frequent occurrence, nevertheless for this very reason, together with the particular organs involved, many of us at first cannot avoid seeing the ludicrous side, however easy the scientific explanations by analogy may seem. Familiarity with frequent recurrences of nature's perversions does not breed contempt, but it does dull the sense of the ludicrous. Still I have a feeling, even now, that I should have said: "*Some Interesting Instances of Nasal Reflex.*" If they are not *amusing*, I can hope that they may be, at least in some degree, interesting.

I had never seen but one case of priapism, and that was in 1879, during my term in the New York Hospital, until by accident the second case came under my observation in 1888. A young cashier was driven from his rooms to my office in a close cab, wearing an overcoat on an August day. He had been confined to his room more than two days with a painful attack of priapism, for which he said he had run the gauntlet of all treatments, from hot and cold water locally to salines, opium and apomorphia internally, without any effect. He looked haggard and pale, and in many ways the results of his great suffering were plainly shown. The object of his visit to me was to be relieved of an acute rhinitis, accompanied with an almost complete nasal stenosis. I sprayed the nose slowly, but persistently, with a solution of cocaine in alboline until the engorged turbinal tissues relaxed sufficiently, within about five minutes, to allow a comparatively free passage of the spray through both nares. About this time, with an expression of great joy, the young man exclaimed: "Doctor, not only is my nose free, and I am relieved *there;* but see! *it has all gone down,* and I am perfectly easy." His cocaine exhilaration was scarcely perceptible, and indeed I would not have recognized any, but for my anticipation that there might be some. As the nasal turgesence disappeared so did a complete relaxation in the principal organ of erectile tissue follow. How singular it was that a second case of priapism should have followed in the latter part of the same year; and yet in the nine years that have since passed I have not seen or known of another case. This second case—a young man, age about twenty-two—was in many respects similar to the first, except that he had suffered only intermittently, but during a longer period—five days. And yet his relief lasted only during a decided opium narcosis, and pain gradually returned when the effect of the narcotic began to decline. His exposure to frequent applications of hot and cold water had probably caused the acute aural catarrh, with a moist and stuffy nose, notwithstanding the large amount of opium he had taken. The subjective symptoms of pain and tinnitus, together with the visibly retracted drum membrane, suggested a nasal spraying with the same cocaine solution in alboline that I had used in the first case before inflating. This young man had come to me for his aural and nasal troubles, and I was not aware of his priapism until after I had relieved it indirectly. His exclamation of delight was as prompt and no less decided than the cashier's. I saw both of these cases several times during the succeeding two or three days. There was no intimation of a return of priapism in the first case, and in the second only in a slight degree several times.

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*Read before the American Laryngological, Rhinological and Otological Association, at New Orleans, March 3d, 1897.

The soft tissue that covers the turbinal processes is not histologically dissimilar to the corpora cavernosa; hence the question: Was the distal effect by reflex, or through the direct systemic influence of the cocaine on the arterial constrictors? Would cocaine have produced the same result during its exhiliarating stage had it been administered otherwise?

Although I have been using cocaine constantly from the early eighties—indeed, since I received a consignment of a part of the first half-ounce imported from Koller's laboratory—I did not know as much of its potencies—nor did anyone else—as the novice thinks he knows now. Yet will our present knowledge of the therapeutic properties of this drug explain how it effected these results?

I casually mentioned these two cases of priapism before the Atlanta Academy of Medicine about seven years ago, in a discussion on an allied subject, but do not remember that my remarks were ever published.

An unaccountable sneeze is produced in some persons merely by an erotic thought when accompanied by the desire and the anticipation of its fruition. All whom I have questiond upon this point say that the sneezing reflex passes off long before the usual and more important erectile area has been stimulated to its full limit of distention.

I do not doubt, from the accidental way in which some seven or eight such instances have come to my knowledge, that many more men are endowed with this faculty than we know of. From the descriptions it is characteristic and quite unlike the sneeze that first announces a cold.

A gentleman once described his own case to me more graphically than I can repeat it. While walking, he said, one evening arm in arm with a lady, his wife, who was but a short distance in the rear, was surprised to hear a succession of sneezes that she first mistook for his characteristic sneeze, with which she thought she was quite familiar; but later on she was amused at her own mistake, and no doubt delighted too, when she realized that what she had heard was only the ordinary commonplace bad cold sneeze (?) that any man might unfortunately contract at the wrong time. A young man has confided to me that he was constantly mortified and placed at his wit's end in making excuses to his sweetheart on account of his susceptibility when with her to drafts (?) that she could in no way discover.

Several men have, with my encouragement, finally acknowledged that this little telltale reflex had been their principal cause for consulting me. A prominent physician very graphically described his own experience with these dual reflexes. It came to him so insidiously, he said, that he could scarcely realize it. Indeed his wife had become quite familiar with the characteristics of his forerunner long before he would himself acknowledge it.

None of the means that are ordinarily resorted to can suppress this sneeze. It simply means to announce that "Barkis is willin'," or would like to be, at least; that such an idea exists in the brain of its victim whether or not it can be properly and effectually reflected.

In all of the cases, without an exception, it would appear that the effect on the sneezing area has come and gone before the mental reflex stimulous has had time to reach its usual result of erectile perfection. A sneeze is one of the most typical examples of a nerve reflex, and while the neurologist can only construct a beautiful theory to explain its incentive and conductive factors, pathologists agree that the final result is brought about by the swelling of the erectile tissue covering the turbinal bones. The histological similarity between the turbinal tissues and the cavera cavernosa is quite sufficient to cause no sense of wonder or surprise when a mental impression that excites one should also excite the other, even within pathological bounds, although we are accustomed to regard the one as an entirely physiological function and the other as distinctively pathological.

The instances just cited prove, however, that it is only the turbinal tissue that possesses the dual capacity of responding to either a physiological or a pathological stimulous; also that its response to a mental stimulous always precedes the more important effect below, and is lost before the distention of the cavera cavernosa is complete. It may be answered that a priapism is a pathological condition, and yet its beginning is physiological.

Is it not fortunate too that every time we get our feet wet the reflex result on this lower and larger erectile area is not the same that is so often produced on the turbinal tissue by an over stimulous from an external source?

It has not been my intention to treat this subject lightly. It is too closely allied to one that men generally, I believe, do not disregard "with but a single thought." But seriously, I do think the paper could be more appropriately read before a section on neurology, unless we can claim that rhinologists can be neurologists too, at least in some particular directions, when they choose.

P. S.—I would be glad to receive a short history from any one of any case *apropos* to this subject of reflexes, and will promise to give due credit to the writer in a future and, I hope, more comprehensive paper. H.

TURBINOTOMY AND THE SPOKESHAVE.

BY FAYETTE C. EWING, M.D., ST. LOUIS.

Late Clinical Assistant Central (London) Throat, Nose and Ear Hospital, and at the London Throat Hospital; Fellow of the British Rhinological, Laryngological and Otological Association; Laryngologist to the Missouri Baptist Sanitarium, and Surgeon in Charge of the Outdoor Clinic for the Throat, Nose and Ear; Aurist to M. E. Home, Etc.

The Laryngoscope, for January, contains a notice of a statistical article by Dr. Abercrombie,* of turbinotomy with the spokeshave of Mr. Carmalt Jones, as practiced by that surgeon in the Central (London) Throat, Nose and Ear Hospital. The writer having served six months as assistant in Mr. Jones' clinic, and seen him operate many times, has formed some positive conclusions concerning turbinotomy and the spokeshave. In their pursuit of "the bubble reputation," it is a fact that conscientious physicians, when they discover or invent, are often led to magnify the value of their contributions. When I cite Mr. Jones, and his spokeshave as an illustration of zeal carried beyond reason, I do so conscious of his services to rhinology and mindful of his personal excellence.

Sixty-six cases are considered by Dr. Abercrombie, and he declares that "relief was afforded by turbinotomy in sixty-two; that is, in almost ninety-four per cent. of the cases the operation was successful in a greater or less degree." Again, we are told that "in practically all the cases the nasal stenosis was for hypertrophic rhinitis to a greater or less extent. The oldest was seventy-one, the youngest six."

Right here, we are denied information necessary to a fair estimate of the results of the operation; we are not told how long this improvement lasted. If we are to judge the benefits of this operation by the unreliable asseveration of the patient, immediately or shortly thereafter, I make bold to say that it would not be impossible to have the statistics show 100 per cent. In advancing this proposition, of course I would consider only cases with complete or approximately complete nasal stenosis. Having made an air passage through one hundred such noses, and relieved the disagreeable necessity for mouth breathing—the patient not having had time to experience the disagreeable results that must follow—we might expect that there would naturally result one hundred affirmative answers to the direct question as to whether improvement was felt. Dr. Abercrombie admits above that a moderate hypertrophic rhinitis was sufficient to induce the operation, and this comports with the writer's experience while in the hospital. Turbinotomy, for rhinitis, is brutal; upon children it should be classed malpractice. Given a case of hypertrophic rhinitis, the entire removal of a turbinal is simply the conversion of a pathologic condition into an abnormality; and as all roads led to Rome, so both of these lead to like pathologic processes further down the respiratory passage. We have "jumped out of the frying-pan into the fire." Reason knows no rationalism that will justify the spokeshave, when we have in the chemical and electro-cautery the transfixion needles and snare, and the several forms of nasal scissors and conchatome, exact methods by which the amount of tissue can be reduced to render the relationship of the parts normal. One or more of these can be employed according to the degree of hypertrophy. There are three classes of rhinologists, viz.: the operators, the squirters, and a third, who occupy a middle ground between the extremists, who work by the rule: *Restore as nearly as possible the relationship of the parts.* While calling a halt upon the blood and thunder assaults of the operators, the writer disclaims any desire to drift with the wishy-washy waves of the squirters, whose tide laves a fruitless field. He realizes that the most brilliant results in rhinology are achieved through operative procedure, yet, at the same time, he is conscious of the limitations of all things. The spokeshave never considers the relationship of turbinal to septum—except when it slips. Its mission is "a clean shave." It belongs with the barber-surgeons of old. The sense of touch is an inaccurate guide, and there is no way by which the depth of cut can be regulated with precision. Like the burglar, the spokeshave works in the dark, and works to rob. Dr. Abercrombie speaks of the renewal of tissue, a pseudo-turbinal having developed in some cases. Mr. Wyatt Wingrave, of the staff, an accomplished histologist, and an able surgeon, found upon examination of some of these new turbinals "perfectly healthy and normal mucous membrane, complete in details." Is not this nature's noble attempt to recompense for robbery. Like the compensatory hypertrophy on the concave side of the deflected septum, does it not go to prove the necessity for the turbinal; "its own excuse for being." The turbinal has its function to warm, moisten, and cleanse the air passing over it; and in substituting a traumatic atrophic rhinitis —if I may be indulged the incongruous though expressive description —in time we will not only have to "bear the ills we have," but may "fly to those we know not of." If, as Dr. Abercrombie indicates, when he says, "in two cases, some time after the operation, and presumably resulting from it, a condition of pharyngitis sicca was observed," the stenosis had not existed long enough to set up the dry throat, we can positively promise the victim of double turbinotomy this condition without fear that a medical statute of limitations will interpose to compromise our position. A jerk, a snort, and a turbinal in a slop-jar may be a quick and sure way to make an air-passage through the nostril, but it will not stand time. The entire removal of a turbinal may be necessary in certain very rare conditions, such as an extremely deflected or distorted septum that cannot be straightened, or in certain sinus disease, but even in this partial ablation will generally serve the purpose. The condition that would justify it upon a child would be anomalous. It is admitted that true hypertrophic rhinitis in children is rare, though an intumescent form that creates clonic stoppage is common enough. This is generally seen in neurotic, city-bred subjects, whose mode of living predisposes to the catarrhal diathesis when it does not actually inaugurate it. In such cases the cautery accomplishes no good, and should be regarded as bad surgery, since the stoppage repeatedly returns. In uncomplicated cases of this kind, if the hygiene is regulated, nature will cure the catarrh. It, therefore, behooves the consciencious rhinologist to make a careful study of the children brought to him for nasal stenosis before destroying any tissue, using cocaine to determine if there is actual hypertrophy, lest he bring opprobrium upon his specialty. Of the cases enumerated by Dr. Abercrombie, 8 had nasal spurs, 10 nasal polypi, 7 enlarged tonsils and adenoids, and 4 adenoids alone. Any of these might produce nasal stenosis, or difficulty of breathing, and possess no physiologic function, and it is not unreasonable that we should question why they were not removed first, and nature given a chance to assert her curative powers unhandicapped by a source of irritation. There need be no space consumed in a discussion of the after-effects of this severe and unnecessary operation. The swollen nose and eyes, great pain, severe headache, recurrent hæmorrhage, etc., are of minor importance in its serious consideration.

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*Late Assistant Registrar.

Grand and Lindell Boulevard.

A CONTRIBUTION TO THE STUDY OF COUGH DUE TO IRRITATION IN THE UPPER AIR-PASSAGES.*

BY CHARLES N. COX, M.D., BROOKLYN, N. Y.

Nothing is more harassing to the patient and puzzling to the physician than a stubborn, unyielding cough. It is always fraught with more or less alarm to the former, on account of the fear that it may indicate pulmonary trouble; and, judging by the routine treatment of this symptom by expectorants and other internal medication, the inference is not unnatural that the physician himself too frequently overlooks the possibility of the source of irritation being above the chest, or at least above the larynx.

I have no doubt that the majority of coughs have their origin at some point in or below the larynx; but if we study our cases carefully, it will sometimes be found that the cause is some irritation in the respiratory passages further up. It is not the province of this paper to consider coughs due to distant reflexes, which originate in some part of the body outside of the respiratory tract—a well-known example being that of so-called "ear cough," due to pressure of inspissated cerumen, or other foreign bodies, on the terminal filaments of the trigeminous and the vagus, which are distributed in the cutaneous lining of the external auditory canal. There is scarcely an organ or part of the body that has not been reported as the cause of reflex cough, the mechanism being difficult to explain, but taking place in some way, undoubtedly, through the sympathetic nervous system. In seeking the cause of a cough, these obscure and often rare reflexes are not to be lost sight of; but we will consider here only such coughs as are due to irritation in some part of the respiratory tract between the larynx and the anterior nares.

NATURE AND PURPOSE OF COUGH.

Let us consider for a moment what cough is, and what purpose it serves. Reichert† regards cough as a modification of respiration, and says: "In coughing, a preliminary inspiration is followed by an expiration which is frequently interrupted, the glottis being partially closed at the time of the occurrence of each interruption, so that a series of characteristic sounds is caused. The air is forcibly ejected through the mouth, and thus foreign particles, such as mucus, in the respiratory passages, may be expelled. Coughing may be either voluntary or reflex." He says further:* "Coughs which are not dependent upon irritation of the larynx, trachea or lungs are distinguished as sympathetic or reflex coughs.

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*Read before the Medical Society of the State of New York, Jan. 26, 1897.

†American Text-book of Physiology, 1896, pp. 562-563.

It will thus be seen that he regards coughs caused by irritation in the respiratory tract above the larynx as reflex. I presume this opinion is quite generally accepted; but I would, however, always regard cough as a reflex act, and would make the distinction that it is a *normal* reflex of irritation in the larynx, trachea, and the further continuation of the air-tract in the lungs, and that it is an *abnormal* reflex of irritation in the upper-air passages; for instance, the normal reflex of irritation in the lower pharynx is *hemming;* about the fauces, *gagging;* in the naso-pharynx, *hawking;* in the nose, *sneezing.* Now if, as sometimes happens, as will be shown, cough is set up by irritation in any of these regions, instead of the usual reflexes, the phenomenon is an abnormal reflex.

I would define cough as a modified respiratory act, voluntary or involuntary, consisting of a preliminary inspiration followed by one or more sudden expirations with a partially closed glottis, having for its object the removal of anything which is causing irritation in the air-passages. The sensation of irritation is usually referred to the region of the larynx, no matter whence its source. Some of the normal reflexes of irritation in the upper air-passages have already been mentioned. For some reason, difficult of explanation, they are sometimes replaced or augmented by other and abnormal reflexes.

COUGH DUE TO IRRITATION IN THE NOSE.

The possibility of intra-nasal disease being the cause of cough has been mentioned by some of the oldest writers; but I believe Seiler† was the first to report a case. He published two cases due to hypertrophic rhinitis. He was shortly followed by Hack,‡ who reported a case of spasmodic cough due to a fibrous polypus. But the first to give the subject of nasal cough its merited attention was J. N. Mackenzie,§ who demonstrated that cough was frequently dependent upon intra-nasal disease, and could be produced by artificial irritation, even when there was no apparent pathological change in the nasal tissues.

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*Loc. Cit., p. 563.

†*Arch. of Laryngology*, 1882, p. 240.

‡*Berlin. Klinsche Wochenschrift*, 1882, No. 25.

§*Amer. Jour. of the Med. Sciences*, July, 1883.

Others have since frequently reported cases of cough due to and cured by treatment of diseased conditions of the nasal cavity.

It is possible for cough to be caused by irritation or pathological conditions in almost any part of the nasal cavity; and there is no unanimity of opinion as to which are the most frequent seats of disease; but it is generally agreed by rhinologists that the most pronouced "cough areas" are situated about the anterior and posterior ends of the inferior turbinated bodies, the inner surfaces of the middle turbinated bodies, and that part of the septum lying opposite the latter. In my experience, the two regions most frequently provocative of nasal cough are those including the posterior ends of the inferior turbinated bodies and the posterior end of the septum, and the inner surface of the middle turbinated bodies and that part of the septum lying opposite.

I have, in a few instances, found cough as a pronounced accompaniment of hypertrophic rhinitis, when there seemed to be no particularly sensitive areas, touching of which produced the symptom, but the whole nasal tract was abnormally irritable, and the slightest contact of the probe would evoke cough; which reflex disappeared temporarily under the influence of a weak solution of cocaine, and permanently after successful treatment of the hypertrophied mucous membrane.

Rather more frequently have I observed the same symptom in vasomotor rhinitis and hyperæsthesia of the nasal mucous membrane. This is what we might expect, for the very neurosis, undoubtedly causing this condition, permits the sympathetic ganglia to have unwonted and exagerated sway.

Spurs and deflections of the septum are quite frequent seats of sensitive areas which are productive of a cough. In fact, exaggerated reflexes are proverbially attendant upon these conditions. In the case of deflections, the sensitive area is almost invariably on the convex side, this side being also always the seat of more or less hypertrophy.

The posterior end of the septum is frequently the seat of either a unilateral or bilateral swelling of pale, sodden appearance. It is often productive of sufficient obstruction to interfere with nasal respiration. Cough is liable to be caused by this condition. To inflammation of this region, and also that of the posterior ends of the inferior turbinated bodies, is due, in my opinion, the tickling cough met with in the latter stages of acute coryza, when the cold is said to have "gone to the chest."

Of course, we should not forget the fact that very frequently the coryza is followed by inflammation of the mucous membrane of the whole respiratory tract, and that in such cases the cough would more likely be induced by irritation of the larynx, trachea, bronchia, etc.—

at any rate, they could not be excluded as a cause. But for some time past I have been so impressed with the importance of this ætiological factor that I have taken every occasion opportunity offered to test the matter.

Time and time again have I observed cough supervening upon an acute coryza, which was most naturally attributed by the patient to extension of inflammation to the lower air-passages, but which, upon the closest examination, appeared to emanate entirely from the region in question; positively, because mechanical irritation with a probe or applicator aggravated the cough; negatively, for the reason that there appeared to be no material departure from normal conditions lower down in the air-tract; and, moreover, cocainization, or even simple cleansing of the suspected area, produced immediate cessation of the cough, without the assistance of any other remedial agent.

The presence of nasal polypi is generally accepted as a frequent cause of asthma. The growths sometime also induce cough without asthma. I have seen this fact well marked, and have had the fortune to secure accumulated evidence in several cases where the cough, which was a most marked symptom, was entirely relieved by removal of the polypi, and returned with the recurrence of this growth, to be in turn again abolished by another clearing away of the neoplasms.

Quite recently I had under my care a lady who had the most marked case of cough from this cause I have ever seen. She had had for some months past a most distressing cough, which was constantly growing worse, until she had no relief night nor day. Her physician, suspecting that her nose might have something to do with the cough, since there was marked nasal obstruction, sent her to me. I found several polypi in each nostril. The cough, of months duration, disappeared as if by magic upon their removal. The most striking feature of this case, and the one which induces me to refer to it especially, was the intensely irritable condition of the mucous membrane surrounding one polypus, lying between the middle turbinated body and the septum. In spite of a thorough application of cocaine to the region, and although no pain was felt, such a violent cough was provoked by contact of the instrument that it was almost impossible to place the loop of the snare over the growth. At the next visit this region, without previous anæsthetization, could be touched without eliciting cough.

The mechanical irritation of dry crusts, in atrophic rhinitis, has been mentioned as a cause of cough. I do not remember having seen a case of cough which could be attributed to this cause.

COUGH DUE TO IRRITATION IN THE NASO-PHARYNX.

A cough may sometimes be due to some pathological condition in the naso-pharynx. This is not so frequently the case as it is with nasal irritation. The more common causes in this region are adenoids, and the accumulation of thick, tenacious mucous in chronic naso-pharyngeal catarrh. We are all familiar with the more or less violent hawking and coughing of patients subject to the latter disease, particularly in the morning, when the accumulation is greater in quantity, and thicker and more tenacious in consistence, than at any other time of the day, owing to the fact that for some hours during sleep there has been no effort at removal. Many cases of so-called "morning cough" are due to these conditions alone.

COUGH DUE TO IRRITATION IN THE PHARYNX.

In this region, we find again more frequent cause of cough. The dry, glazed mucous membrane of an atrophic pharyngitis is sometimes attended with the symptom. Rather more frequently, perhaps, a granular pharynx or a chronic follicular pharyngitis incites the reflex. In this connection it might be well to mention a form of follicular pharyngitis, to which the term *pharyngitis lateralis hypertrophica*, has been applied by Schmidt,* in which the chain of lymphoid tissue extending along the lateral walls of the pharynx, behind the posterior pillars, is involved. Being partially or wholly hidden by the pillars, this condition is easily over-looked, unless one draws the palatine arch forward with a retractor. Sometimes indeed, the pillar is found adherent to the lateral wall of the pharynx, in which case cough is very likely to ensue.

Papillomata, springing from the soft palate, may give rise to cough. The growths themselves are not of very frequent occurrence, but when present are very prone to give rise to this symptom. I had under my care, several years ago, a young man of eighteen, who was suffering from incessant and severe cough of two or three years' duration. His general health was good, and at first I could find nothing to which I could attribute his cough. I was unable to stop the cough until, almost accidentally, I discovered a small papilloma, not larger than an ordinary pin-head, springing from the posterior surface of the posterior pillar. The growth had a thread-like pedicle which allowed it considerable movement. A snip of the scissors, and the cough was a thing of the past.

An elongated uvula is such a well-known cause of cough, as to require nothing more than the merest mention.

Deutch. Arch. f. Klin. Med., 1880, Vol. 23, pp. 421-424.

Although, strictly speaking, the tonsils are not in the air-passages, they are such near neighbors that I would like to be permitted the digression of alluding to them as the occasional source of a cough; particularly when adhesions have formed between them and the faucial pillars.

A source of cough of great importance, is that of enlargement or a varicose condition of the lingual tonsil. Rice,* I believe, was the first to demonstrate this fact. The cough in such cases is not due to irritation at the seat of hypertrophy or varicose swelling, but rather to friction of the mass against the upper edge and posterior surface of the epiglottis, during the movements of the latter. Vice versa, hypertrophy of the epiglottis sufficient to cause it to come in contact with the tongue, or any of the surrounding parts, in its movements, will almost certainly evoke cough.

THE IMPORTANCE OF RECOGNIZING THESE SOURCES OF COUGH.

I have thus, in a general way, attempted to direct attention to the various sources of irritation in the upper air-passages which may produce cough. Observation justifies the belief that they are not as fully recognized as their importance demands. The text-books on general medicine, as a rule, give the subject no mention—or, at most, a mere passing allusion—and the treatment of cough as a symptom is usually considered in its relation to bronchial irritation only. In practice, patients are too often turned away with a sedative, which lulls the cough, but does not remove the cause. Cough is not only occasionally, but very frequently, due to some irritation above its ordinarily recognized seat in the laryngo-bronchial tract, and upon the recognition of this fact will often depend the effectual and radical removal of a symptom which is the source of much mental and physical worry to the patient, and which in itself may, in time, be productive of real disease in the lower air-passages; for the effect of a constant, ineffectual, and useless cough is not entirely unattended with danger to the mechanism concerned in the act, especially in a subject already predisposed by disease or inheritance to respiratory maladies.

DIAGNOSIS.

Given a cough accompanying which there is no apparent pathological condition in the lower air-tract, how may we know that the cause lies in pharynx, naso-pharynx, or nose? This is oftentimes a most difficult question to determine. If the cough were invariably attended with some peculiar characteristic by which it might be known, the task would be much lightened; but it is not so.

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*Transac. Med. Soc. State of N. Y., 1886, pp. 455-466.

To be sure, various characters have been ascribed to coughs, and we all recognize a dry cough, a moist cough, a hacking cough, etc. But none of these attributes can be claimed exclusively for such coughs as are due to irritation in the upper respiratory passages. They belong to the symptom in general, without particular reference to its source; although, as a rule perhaps, these coughs do partake of the dry, hacking variety. Yet, the same can be said of certain forms of laryngeal irritation, or coughs due to more distant reflexes.

In making a diagnosis, the whole pharyngo-nasal tract must be carefully examined, particularly those areas which have been mentioned as the most frequent sources of pathological reflexes. If marked evidences of disease be present anywhere, and especially if contact with the probe produce or increase cough in a striking degree, the inference is fair that this locality may be the source of the cough, and then, by exclusion, if local anaesthesia of the suspected area, by a four or five per cent. solution of cocaine, hold the cough completely in abeyance, the evidence is conclusive beyond reasonable doubt, that the pathological condition of this locality is the initial of the reflex.

Both of these tests may fail; their failure, however, does not bar the possibility of nasal or pharyngeal causation. And if marked evidence of local disease be present, its treatment is justifiable, for it will be frequently followed by cessation of the cough.

TREATMENT.

In the treatment of these cases, there are two factors to be borne in mind: first, a local irritation; second, a neurosis, in which there is lack of control of the efferent impulses originating in the sympathetic nerve-centres, these latter having been teased into exaggerated activity by continued impressions of peripheral irritation.

In a very considerable proportion of cases, the local irritation is the prime factor, and local treatment alone will effect a cure. The limits of this paper will not permit a detailed description of the various means, medical and surgical, for removing the pathological conditions which have been described as the frequent cause of cough. The minutiæ of such treatment are fully described in the comprehensive laryngological and rhinological text-books of the day.

Peripheral irritation having been abolished, and the nerve-centres allowed to rest, nerve control is restored and abnormal reflexes vanish. But if the irritation has been too long continued, or if preverted nerve-action is due to inherited or acquired disease, local treatment alone will not avail. It will then be necessary to institute such constitutional treatment as will restore tone to the nerve-centres, and inhibit their excessive action. Indeed, it may be necessary at times, even where local irritation is the prime factor, to temporarily suspend the excessive activity of these centres by sedatives, such as opium, morphia, codeia, etc., until the peripheral irritation can be removed. Although this, as a routine measure, is to be deprecated.

Any existing diatheses should receive attention. Digestion and alimentation should be the subject of the most careful consideration.

The drugs which have proved the most efficacious, in my hands, in restoring normal tone to the nervous system, are phosphide of zinc, iron, quinine, and strychnia; each being administered alone, or in combination with one or more of the others, according to the indications of the individual case.

SOME UNUSUAL CAUSES OF COUGH.*

BY EMIL MAYER, NEW YORK.

The doctor laid particular stress on the fact that he wished to call attention to the fact that cough may and does exist without any pulmonary complication—a fact which is often lost sight of by the practitioner.

After mentioning the literature of the subject, he presents seven cases as noted by himself: Case 1, cough due to adenoids with hypertrophied tonsils. Case 2, cough due to follicular pharyngitis. Case 3, cough due to adenoids with follicular pharyngitis. Case 4, cough due to follicular pharyngitis. Case 5, cough due to leptothrix pharyngealis. Case 7, cough due to foreign body in the ear.

Regarding the symptoms of this condition, it was claimed that they are so very apparent that it may be generally stated that a persistent dry and hollow cough, without the usual antecedents of acute trouble, failing to yield to treatment in a reasonable space of time, and where, moreover, the physical signs failed to disclose any pulmonary complications, is without doubt reflex in origin, and a search for the cause must be thorough and persistent.

Regarding the treatment, all cases were treated in the usual manner, excepting those of follicular pharyngitis, which the author treats in the manner heretofore originally described by himself—that of curretting. The galvano cautery is never used for this class of cases by him, and one case cited shows that the cure by means of the curette was prompt and lasting. The case of leptothrix was treated by means of expression, followed by applications of balsam peru in alcohol.

The following were the conclusions arrived at: A cough is reflex in its origin:

(1) When it is spasmodic, practically constant, without expectoration and temperature.

(2) When the physical signs of pulmonary disease are absent.

(3) When it persistently resists all medication.

(4) When the general health remains comparatively undisturbed; and

(5) When upon removal of the cause it promptly ceases.

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*Read at the Ninety-first Meeting of the New York State Medical Society. Original Abstract.

A STUDY OF THE LINGUAL TONSIL.

BY LEWIS S. SOMERS, M.D., PHILADELPHIA, PA.

Stoerck, in 1877, was the first to call attention to the mass of lymphoid tissue at the base of the tongue as a factor in the production of irritation of the epiglottis. But only during the last few years has any definite study of the pathology of the lingual tonsil been made. The literature on the subject, with but few exceptions, consisted mostly of reports of isolated cases. That this portion of the oro-pharynx is the cause of many otherwise inexplainable pathological phenomena is not to be doubted, if its examination with the laryngoscope is made part of the routine study of all cases suffering from naso-pharyngeal diseases, and especially if cough is a factor in the history of the patient.

As is well known, the pharynx is surrounded by a ring, or zone, of lymphoid tissue, hardly visible in some positions, and yet in other parts forming quite prominent agglutinations of lymphoid tissue as the faucial tonsils. This ring of lymphoid tissue is continued over the posterior pharyngeal wall, where, in the median line, well up in the naso-pharynx, it again becomes prominent, and is commonly designated as Luschka's tonsil. The anterior portion of this lymphoid circle, situated between the base of the tongue and the epiglottis or epiglottic folds, forms the so-called fourth or lingual tonsil. This tonsil is from one-eighth to one-quarter inch in thickness and is irregularly flat in shape, consisting of a collection of lymphadenoid tissue on either side of the median raphe of the tongue, and situated immediately posterior to the circumvalate papillæ. The base upon which the glands rest is composed of muscular tissue, fasicula from which penetrate into the substance of the gland and interlace between the crypts. It is especially prominent at the sides of the median line, but normally so small that a clear space exists between the tongue and the epiglottis. In the median line the follicles composing the tonsil are so minute as to be practically invisible.

The histology is the same as the tonsilar tissue in other portions of the pharynx, differing from the faucial tonsils only in the smaller number of crypts present. Harrison Allen* has defined a tonsil as

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*Harrison Allen, *American Journal of Medical Sciences*, January, 1892 essentially an association of diverticulæ, developing from the epithelial layer of the mucous membrane. In the wall structure of these diverticulæ are grouped mucous glands and lymph follicles. The stomata of these diverticulæ open, in a more or less uniform manner, on the surface of the tonsilar mass. This description is applicable to all the tonsilar tissue. The lingual tonsil differs only inasmuch as the anatomic units, or in other words the individual crypts, are not bound together in one mass, as in the faucial tonsil; they are single, forming a group of aggregated lymphoid elements with a definite interspace between the individual glands. Microscopically we find from four to eight small lymphoid glands, with a few mucous glands bound together by connective tissue. The crypts are irregularly shaped like the bowl of a lamp.* The blood supply of this region is very profuse, in some instances almost resembling erectile tissue. The lymphatic vessels are also abundant.

Of the physiology of the gland little is known, but from its position and anatomy it seems to be of more or less value in three ways, (*a*) acting as a pad or cushion to fill out the space between the tongue and epiglottic folds, to prevent food from lodging here; (*b*) to secrete mucus to lubricate this region, and thus assist in the passage of the food bolus over the epiglottis; and finally (*c*) by its secretions constantly moistening the circumvallate papillæ, thereby aiding in the sense of taste. That the functions here named are actual facts is not proven any more than we know definitely of the functions of any part of the tonsilar tissue. The lingual tonsil is not, in my experience, present in young children. Usually developing much later than the faucial tonsils, it seems to be rarely present before the fifth or sixth year.

This mass of lymphoid tissue is frequently the seat of some morbid process; from its position and surroundings this must be expected. The food passing over it may produce irritation or infection; lying in a hollow, as it does, particles of food may remain and act as foreign bodies, with the usual results. Irritation may also result from constant motion of the tongue; or inflammation, simple or specific, may spread by continuity or contiguity, and involve it, both from the faucial tonsils and pharynx, or tongue. Frequently simple inflammation of the faucial tonsil will, in a few days from the onset, be followed by inflammation of the lingual tonsil. That diphtheria may involve this mass of tissue seems probable, but I have found no cases reported in the literature at my command, and am not prepared to say conclusively that I have seen it; but a case of pharyngeal diphtheria extending to

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*Swain, *New York Medical Journal*, July 25th, 1896.

the larynx, seen several years ago, very probably presented involvement of the lingual tonsil, as the epiglottis, in part, and a small portion of the base of the tongue, was covered with the membrane, cultures from which showed the Klebs-Loeffler bacillus. The lingual tonsil may be diseased, while other portions of the oro-pharyngeal lymphadenoid tissue are normal, or vice versa. That this occurs is well shown in a case seen by Schaede* in which the faucial tonsils and pharynx were the seat of atrophy, while the lingual tonsil was normal.

Diathetic conditions frequently localize themselves in the lingual tonsil, as syphilis,† and rheumatism may manifest itself in this locality, as seen in one case, in which the faucial and lingual tonsils were violently inflamed (twice going on to suppuration) just preceding the rheumatic attack of the joints. The ætiology may be dismissed in a few lines, as it differs in no essentials from that of the faucial tonsils, certain factors seemingly being more potent in the production of diseased conditions of the former than in the latter. It seems to be the general concensus of opinion that the lingual tonsil is affected more often in females than in the opposite sex. Such has been the case in my patients, the female sex predominating. As to the influence of age, as before said, the lingual tonsil is not present until about the fifth or sixth year. After this period of life, in contradistinction to lymphatic glandular hypertrophy being most common in children, diseases of the lingual tonsil are seen after the age of puberty, there being an increased tendency to its inflammation during adult life. For this reason, as a general rule, it may be said that it bears little or no relation to the production of adenoid growths in the pharyngeal vault. In my cases the tonsil was diseased most frequently between the ages of ten and twenty.

In the simple hypertrophic form a nervous or anæmic condition of the patient is generally present. Lewis‡ has lately called attention to the lingual tonsil as a factor in the production of varied pressure sensations when goitre was present in the same individual, and advises an examination of this tonsil when the symptoms are out of proportion to the thyroid enlargement. The causes of syphilitic infection of the lingual tonsil are, usually: excessive smoking, abuse of alcohol, and long-continued speaking or use of the voice in those who have recently contracted syphilis. Before describing the various morbid processes by which this tonsil may become affected, it will be well to name the more

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*Schaede, *Berl. klin. Wochenschr.*, No. 13, 1891.

†James E. Newcomb, *Medical News*, July 2nd, 1892.

‡Edwin R. Lewis, LARYNGOSCOPE, Vol. 1, No. 1.

important symptoms characteristic of disease in this locality in a general way, leaving the symptomatology of the special morbid conditions under the appropriate disease in question.

The symptom, complex, may be divided into three parts: local, constitutional and reflex. The local symptoms may again be subdivided into subjective and objective; the subjective symptoms being a sensation of a foreign body in the throat, not disappearing on deglutition, and in many instances is located by the patient at the base of the tongue. Constant endeavor to clear the throat; cough, irritative in character, and not explained by any morbid process of the respiratory tract; laryngeal fatigue, as shown by the voice easily becoming tired, and by hoarseness. Hemorrhage may be quite severe, but practically consists of a staining of the expectoration. Every swallowing motion, if there is much enlargement, causes the tonsil to impinge either against the base of the tongue, faucial tonsils or epiglottis, with resulting discomfort. When the entire group of glands comprising the tonsil is enlarged or inflamed, there is a feeling of stiffness or actual pain on movement of the tongue. The objective symptoms will depend upon the character of the lesion present, as seen by the laryngoscope. The tonsil may be slightly enlarged from congestion, or the various degrees of acute inflammation, even to abscess formation, may be present.

The constitutional symptoms do not differ in any respect from those presented by the various simple or specific inflammations of the faucial tonsils. The temperature may run as high, while malaise and anorexia in severe cases are always present to a greater or less degree. The reflex symptomatology is varied, most prominent being cough; this is of a peculiar dry, nervous character, differing from the form of cough previously mentioned as resulting from irritation of the lingual tonsil by friction against adjoining tissues. More or less constant is the sense of constriction around the throat, referred to a level of the upper portion of the thyroid cartilage. In nervous or hysterical cases, globus hystericus may be simulated, especially in young women. Casadesus* has reported a case of hypertrophy giving rise to attacks of nocturnal asthma, which was cured by the use of the galvanocautery to the diseased glands.

The diagnosis of the various conditions can be made only by the laryngoscope. The prognosis, as far as life is concerned, is always very favorable, the only danger that is liable to occur being œdema of the glottis in severe acute inflammations, and that is somewhat remote. As to cure, that will depend upon whether the affection

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*Casadesus, *Atlanta Medical and Surgical Journal*, October, 1894.

present is local or the result of some constitutional infection, such as syphilis. In general terms, treatment is eminently successful, the acute inflammations subsiding under appropriate treatment in from two to six days, and in the chronic hyperplasias cure may be effected in a few weeks at the most. In a few cases, occasionally seen, parts of the lymphoid groups will be successively inflamed and relapses are frequent. The frequency with which the lingual tonsil is diseased is more common than generally supposed. Scheppegrell* saw hypertrophy eight times in one hundred consecutive cases of naso-pharyngeal disease. No doubt, if more attention was paid to this part of the oro-pharynx, fully twenty per cent. of all our nose and throat patients would present some morbid alteration of this group of glands. The author last named reported fifteen cases, ten of which were females.

The study of the various pathological processes involving the lingual tonsil has caused me to construct the following classification. Until future studies have been made this must necessarily remain more or less incomplete. The various affections may be classed as follows:

1. Acute congestion. 2. Simple acute inflammation. 3. Peritonsilar inflammation. 4. Abscess. 5. Hypertrophy. 6. Acute follicular inflammation. 7. Chronic follicular inflammation. 8. Cheesy degeneration. 9. Syphilis. 10. New growths.

Acute congestion of the lingual tonsil is usually the result of some nervous excitement, and rapidly diminishes as the cause is removed. The patient complains only of a dry, nervous cough, due to the friction of the tonsil on the adjoining parts. This condition of congestion may also result from a "cold in the head" by reflex action. If the congestion is not arrested, it will, in a few hours, pass into the condition of simple acute inflammation, with pain, referred to the base of the tongue, fever, and the general symptom of acute inflammation, as seen in the faucial tonsil. The inflammation at this time may be so severe as to interfere with free motion of the tongue, and similarly, from congestion of the adjacent parts, the voice may become more or less affected. Cough is a constant symptom. This form rarely passes on to pus formation, and under appropriate treatment usually subsides in a few days. If the attacks occur frequently, usually from coryza, the condition gradually passes into hypertrophy of the glandular structure, with hyperplasia of the connective tissue elements.

The following case illustrates this simple inflammation, and also shows the effect produced upon the epiglottis, as occasionally seen. The patient, a woman, age 22 years, with a general sclerotic condition

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*Scheppegrell, *Medical News*, October 19, 1892.

of the nose and pharynx, complained of pain and irritation at the base of the tongue, a sense of constriction around the neck was well marked, and mild constitutional symptoms were present. On examination, the lingual tonsil was found to be inflamed, and filling up the space between the papillæ maximæ and the epiglottic folds. Under treatment, relief was obtained in a few hours, with subsidence of the inflammation by the second day. On subsequent examination of the case a few months later, it was found that the apex of the epiglottis was firmly adherent to the base of the tongue, with a moderate amount of laryngeal irritation, due to the imperfect covering of the larynx by the epiglottis.

Acute inflammation is, as a general rule, a mild condition, differing in many respects from the much more serious form—peri-tonsilar inflammation. This condition is marked by constitutional symptoms only slightly less than those caused by the same variety of inflammation of the faucial tonsils. Fever may be as high as 104 or 105 degrees, in some cases with marked general prostration. The subjective symptoms are more severe than in the preceding forms, and when the peri-tonsilar infiltration becomes a feature of the affection, the entire tongue may become swollen and inflamed, motion and swallowing becoming nearly impossible. The secretion of saliva is increased to a marked extent, and the epiglottis may become involved, adding to the processes already present, the additional danger of œdema of the glottis. The cervical glands may be swollen, usually on one side, but depending upon the amount of inflammation present; in severe cases the glandular swelling is bilateral. This form of involvement of the fourth tonsil is well illustrated by five cases of peri-amygdalar cellulitis reported by Ruaulb*.

Abscess of the lingual tonsil may result from the simple form of inflammation, but is usually the sequence of a previous acute peri-amygdalar infiltration. The sense of suffocation is probably the most annoying symptom in this condition and an element of gravity is present in acute abscess, on account of the proximity of the pus collection to the larynx. It is hardly necessary to record the more common symptoms here, as they are identical with the same condition as seen in the faucial tonsils. A form of lingual tonsil abscess has been noted by Mounier† in two cases reported, in which all the symptoms were slight, with a very small amount of inflammation present. For these reasons he says that the abscess may readily pass unperceived.

Judging from reported cases and my own experience, hypertrophy

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*Ruaulb, *Archiv. Internat. de Laryngol*, Vol. 5, No. 1.

†Mounier, *Annales des maladies de l'oreille, du larynx, du nez et du pharynx*, Paris, June 1894.

is the most frequent morbid condition met with in the lingual tonsil. The hypertrophic condition usually affects the gland, as used in a collective term, symmetrically, but cases are seen in which the enlargement may be in the median line, or either on one of the lateral halves. Although not able to ascertain the exact causes producing this condition of hypertrophy, yet it certainly seems to be due to repeated attacks of a moderate degree of acute congestion or inflammation, as is seen so frequently in the faucial tonsils. The following case will illustrate the general hypertrophy of the fourth tonsil: Miss L. R.; age 19 years. Has been treated for over one year for obstinate cough, worse in the morning and accompanied with profuse mucopurulent expectoration from the nasopharynx. Local and general treatment was used as directed to the cough, but were of no avail. On examination the following conditions were presented; a general hypertrophy of the pharyngeal ring of lymphoid tissue with considerable enlargement of the lingual tonsil. This hypertrophy was to such an extent, that the epiglottis was forced back over the upper portion of the larynx and its movements much restricted, the mass projecting above the level of the tongue. Under treatment, directed to this condition, the symptoms ameliorated, with a successful issue of the case on the subsidence of the mass of hypertrophied tissue.

Chronic enlargement is most frequent in women, and especially in singers.* This interference with phonation, especially the singing voice, depends upon the grade of hyperplasia, and to some extent upon the location, *i.e.*, laterally or in the median line. When the enlargement is most marked in the median line the foreign body sensation is most prominent, and in some cases this hypertrophy may be such that the epiglottis will be imbedded in the mass of new-formed tissue. With general hypertrophy, one spot of the tonsil is usually more irritated than another, as friction of this portion, with a production of cough and a keeping-up of the low grade of inflammation is constant, the seat of the largest amount of hyperplasia constantly impinging against the surface of the tongue, epiglottis or faucial tonsils. Hæmorrhage may occur, usually slight, but enough blood mixes with the saliva to attract the attention of the patient. This seems to occur mostly during the night, as recently seen in a young girl with simple hypertrophy, in which attention was called to the condition by the stain on her pillow when she arose in the morning. The hæmorrhage is small in amount, and can be readily explained by the number of vessels present in this region, as previously stated. Joal† has recently

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*Dunbar Roy, *Medical News*, October 26th, 1895.

†Joal, *Revue de Laryng.*, etc., Paris, June 1st., 1894.

reported three interesting cases of hæmorrhage from the lingual tonsil, and Foster* also reported a case with bleeding, and called attention to the importance of examining the lingual tonsil when there is a history of bleeding from the throat.

If the hypertrophy be situated laterally there will be more or less pain on swallowing, and sometimes the pain will radiate to the ears. I now have a case of adductor vocal paralysis in which the left half of the lingual tonsil is as large as a hazel nut, pale in color, and not productive of any special symptoms, although if present they may be masked by the other conditions. This patient is a female, and also a singer by profession. McBride† has reported cases of hypertrophy, and gives an excellent colored plate of the condition in his book. Reflex symptoms produced by the enlargement are numerous; I have mentioned the most prominent in another part of this paper. Villecourt‡ has reported a peculiar case of hypertrophy in a woman aged thirty years, in which intense respiratory dyspnœa suddenly appeared, followed by cyanosis on the following day. The right arm appeared heavy, motion was difficult, cutaneous sensitiveness was obtunded, and the electrical contractility of the muscles diminished. Treatment of the lingual tonsil caused the local manifestations to improve on the third day, the other disorders disappearing on the eighth day. This was evidently a case of hypertrophy with an intercurrent acute inflammation, as in addition to the symptoms present of an acute disorder of the tonsil there were found, on inspection, two symmetrical growths at the base of the tongue, each the size of a bean, surrounded by disseminated granulations.

Acute follicular inflammation is characterized by the marked constitutional symptoms: the temperature is higher, the local symptoms more marked; and on the discharge of the mucus plugs filling the crypts the quicker decline of the symptoms than in the other forms of inflammatory involvement of these glands. The tonsil presents the ordinary appearances of inflammation, with the mouths of the follicles dilated, each follicle involved being filled with a mass of semi-solid mucus. The severity of the local and general symptoms being directly dependent on the amount of follicular involvement. Chronic follicular changes, as a general rule, are a result of previous acute inflammations. The glands are enlarged, hyperplasia of gland cells being the most prominent feature, with little involvement of the inter-cellular connective tissue. The tonsil is lobulated, usually on one side of the median line, but it may be seen as a bilateral condition. The symptoms are those of simple hypertrophy, with an increased mucous secretion and a greater liability to constant acute inflammations. Congestion as in simple hypertrophy may be present, but bleeding rarely occurs.

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*Hal Foster, LARYNGOSCOPE, Vol. 1, No. 4.

†McBride, Diseases of Nose, Throat and Ear.

‡Villecourt, *Gazette des hopitaux*, Paris, January 9th, 1894.

When the epithelial elements are especially involved we have the condition of cheesy degeneration—usually the result of previous inflammation of the pharyngeal lymphoid ring and generally present in women or young girls, in connection with cheesy degeneration of the faucial tonsils. The following case will illustrate the condition:

C. Q.; female, age 16 years. Was seen November 3d, 1896, complaining of a sensation of a foreign body in the position of the lingual tonsil, and with the general symptom complex of naso-pharyngeal catarrh. The turbinals were hypertrophied. Cough irregular, dry and without result as far as the raising of mucus was concerned. The pharynx was sclerotic, the faucial tonsils studded with cheesy masses, and the seat of chronic folliculitis. The lingual tonsil was symmetrically enlarged, and the glandular crypts on each of its lateral halves were filled with necrosed, cheesy material, projecting from the surface of the already enlarged tissues. The entire mass of tonsilar tissue at the base of the tongue was surrounded by a moderate degree of inflammation, and was enlarged to about one-fourth its usual size.

Syphilis in its various manifestations may involve the lingual tonsil alone, or, as is usually the case, the tonsil becomes affected with the disease along with other parts of the economy. I have been unable to find a case reported of hereditary syphilis in this locality, although Allen* has observed hypertrophy of the lingual tonsil in this form of the disease, and remarks that it is more common in women than in men. As the lingual tonsil occupies, to some extent, a sheltered position in the oro-pharynx, being protected by the tongue and epiglottis, primary syphilitic infection is rarely seen, although the original lesion has been observed in this locality. Schiffers† saw a case in which the primary lesion was situated on the left half of the lingual tonsil, with swelling of the cervical glands on the same side. The pathology and symptomatology of the primary sore are similar to that when located on the faucial tonsils.

As usually seen in its later stages, syphilis presents its manifestations in two forms in this locality. There may be small protuberances separated from one another by the intervening connective tissue of the glands, and are grayish-red in color. On the summit of these prominences is seen the typical mucous plaque, clean cut and well defined from the surrounding surface, each enlargement corresponding to a tonsilar crypt or group of crypts, which are inflamed and their walls adherent. This process is localized without involvement of the adjoining tissues. The other form is characterized by involvement of one-half or the entire tonsilar mass, showing itself as a single tumefaction, slight adjacent swelling, and capped with a mucous plaque. The mass is ovoid in shape, and a much greater area is involved than in the first form described. Besides the infiltration of the closed follicles there is an interstitial infiltration; in other words a sub-acute peri-folliculitis. The first variety rarely becomes transformed into that of the last. Other portions of the throat are usually involved when these lesions are present. And if the pharyngeal lesions are at all severe the lingual tonsil is generally involved in the morbid process.[*] According to Natier[†] the syphilitic tertiary lesions are very rare, as he, in 1890, had only succeeded in finding fifteen cases in the French literature. The diagnosis of the tertiary lesions is very difficult, and yet it is of the utmost importance that specific treatment be promptly instituted, as deep ulceration is liable to occur, and important vessels may become involved in the process.

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*Chas. W. Allen, Morrow's System Syphilology.

†F. Schiffers, *Archives Internationales de laryngologie, de rhinologie et d'otologie*, Paris November 30th, 1894.

New growths are very rare, the most common being retention cysts, due to the closing of the stomata of the crypts from inflammatory changes. Reuda[‡] reported a case of a retention cyst in a woman 25 years old, the prominent symptom being the sensation of a foreign body in the throat. Onodi[§] saw a case of fibro-sarcoma, the diagnosis being confirmed by the microscope; the case was that of a girl aged 17 years. He found but two other cases reported in literature.

The treatment of affections of the lingual tonsil is essentially local, except in a few cases in which the local process may be the result of some general disease, or where there is a marked nervous element; in these cases removal of the cause and appropriate general remedies are indicated. In acute congestion or inflammation an astringent gargle, rhus glabra being most efficient in my hands, with local applications of tr. ferri chloridi, ʒij to glycerin ℥j. If the inflammation be of the peritonsilar form, more active remedies are indicated, such as iron in stronger solution, nitrate of silver, gr. C to aqua ℥j., tannic acid, or any of the remedies used in the severe acute inflammations of the faucial tonsils. Hot inhalations are of value, especially if there is any local œdema; the mere inhalation of steam usually gives great comfort to the patient. Frequently cold will be found grateful to the patient, when ice cracked in small pieces may be allowed to melt in the mouth. Temporary relief and the reduction of any excessive swelling may be relieved by local application of a four per cent. cocaine or eucaine solution; but these drugs are used with difficulty, as they are so rapidly washed away by the excessive flow of saliva.

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[*] Seifert, *Munchener medicinische Wochenschrift*, Münich, February, 1894.

[†] Natier, *Annals de Polycl. de Paris*, 1890, page 109.

[‡] Rueda, *Arch. Internacionales de laringologia, otologia et rinologia*, Barcelona, November, 1893.

[§] Onodi, *Revue de laryng., etc.*, October 15th, 1893.

If the case go on to pus formation, the abscess must be opened, the galvano-cautery being preferred to the bistoury on account of the abundant blood supply of this region. Complications, such as the extension of the inflammation to the tongue or larynx, must be treated promptly. When a small hypertrophy is present with severe symptoms, especially cough, a four per cent. cocaine solution will reduce the enlargement, and greatly aid in localizing the cause of the irritative symptoms, by causing their temporary absence. For the cure of the hyperplasia, iodine, or a saturated solution of nitrate of silver, especially the latter, are of value. The galvano-cautery or snare may be used when there is a large amount of hypertrophied tissue, but caution must be exercised in their use to avoid interference with the adjacent tissues.

The follicular inflammations are treated by the usual methods applicable to the faucial tonsils. When cheesy masses are present in the crypts, they must be removed with the spoon or dull curette, and the interior of the crypt cauterized with a delicate cautery-point, or the solid stick of silver. Syphilis should be treated with the usual specific remedies, iodide of potash, and mercury in some form; when ulcerations are present, local dusting with calomel, in conjunction with constitutional treatment, will probably give the best results. New growths require operative interference, cysts being evacuated, and their walls cauterized or dissected out. Merely an outline of treatment has been here suggested, as the treatment of this portion of the lymphoid zone differs little from that applicable to the faucial tonsils.

3554 North Broad Street.

OTITIS MEDIA SEROSA, OR SERO-MUCOUS CATARRH.

DR. S. C. AYRES, CINCINNATI, OHIO.

Otitis media serosa may be considered a sub-acute inflammation of the middle ear. In some cases it would seem more proper to regard it as a chronic sub-acute inflammation, as it has periods of exacerbation and partial recovery, which extend over a period of weeks or months. It occurs in the course of an inflammation of the naso-pharynx, with more or less involvement of lower end of the Eustachian tube. It is not usually painful until the tympanum becomes very much distended with sero-mucous, but it is characterized by great distress from autophony. There is also a sense of fullness in the ear, and tinnitus, and a feeling of pressure and numbness. To this is added the deafness, which is very considerable when the viscid fluid fills, or nearly fills, the cavity.

When the tympanum is partially filled with mucous it can be recognized as a black line, resembling a hair-line, which extends across the drum-head. When the fluid is thin it will change its position by inclining the head forward or backward. But this line is not always present, and then the disease can be recognized by the distention and peculiar discoloration of the drum-head.

Gruber says that the drum-head is bulged out either in part or as a whole toward the auditory canal. "Sometimes the anterior and posterior segments project over the malleus to such an extent that it is more or less concealed, being indicated by a furrow." The color of the membrane also varies; sometimes it is of a dirty gray or yellowish, or of a citron yellow, or a greenish yellow tint. In other cases yellowish spots corresponding to viscid masses of exudation are seen through it. Saxton says that this disease is nearly always seen in subjects having a well-pronounced rheumatic or gouty diathesis, and thinks it occurs more frequently than is generally supposed. A patient of his, a lady, experienced, on stooping over, a sensation as if the drum-head were "flopping down," as she expressed it, and on elevating her head it went back.

Among women at the menopause the neuropathic condition was, in several instances, extreme, and gave rise to distressing apprehensions on the part of the patient.

Politzer says the line of demarcation varies very much. It may run straight across the membrane, or may be convex upward or downward, or may be a wavy line, or may be seen only in front of or behind the handle of the malleus.

The condition, once relieved by operation or treatment, may return. Dr. C. H. Burnett reports a case where there was a remarkable recurrence of sero-mucous in the tympanum, and where, during a period of nine years, he punctured the drum thirty-eight times, and still the patient retained good hearing.

Case I.—Otitis media serosa; vertigo, unsteadiness of gait, tinnitus, paracentesis of drum-head, relief.

F., æt. 45. For the past two or three months had had tinnitus, a feeling of discomfort in the right ear, which gradually increased, with deafness on that side. The latter varied from time to time, being occasionally very much worse. She suffered especially from vertigo. This was noticable on rising in the morning and for some time afterwards. It was increased especially when tying her shoes, for instance, or stooping forward for any purpose, and was relieved when the head was again erect. There was at times an unsteadiness of gait. The mental influence of these symptoms was very depressing, and she became anxious and worried about herself. Still she had no pain and did not apply for relief, for the reason that there was now and then such an amelioration of her symptoms as to lead her to hope that they would pass away. But at last the ear became much worse. There was a sense of pressure and fullness rather than pain at first, and an aggravation of the vertiginous symptoms. In a day or two the pain was so marked that I was called to see her. I found the drum membrane bulging, especially the posterior portion. It did not present the characteristic yellowish color, but this was probably due to the fact that it was examined by artificial light. The middle ear was inflated, and this gave temporary relief. The next day conditions were about as at first, but not so much pain. On the third day, as the inflations had not given relief, I proposed a paracentesis of the drum membrane. She at once consented, and I made a free incision in the posterior and most prominent portion of the drum membrane. This was followed by an escape of thick, tenaceous mucous. She fainted immediately after the operation, so that it was impossible to say just how much mucous escaped, but the quantity was very considerable. During a few days after the operation there was a discharge of mucous from the tympanum, but this gradually subsided, and finally ceased entirely. The middle ear was inflated with the air bag and the naso-pharynx treated. The operation was followed by relief of the vertigo, which had been the most distressing symptom of the case. There was a complete restoration of hearing, but there is still at times a very slight tinnitus.

CASE II.—Otitis media serosa; marked bulging of both drum-heads, tinnitus, deafness, paracentesis of membranes, relief.

M., 14. Became rapidly deaf without pain or previous ear trouble. He had suffered from a slight catarrh, but this attracted no attention until the deafness developed. When first examined, his hearing distance for the watch was 2″ R and 3″ L, and for the voice, ordinary tones, at 2′—. He had marked autophony. Examination of the drum membrane revealed the fact that both presented a yellowish or amber colored appearance. The lower, and especially the posterior, portion bulged decidedly. There was no "hair line" running across the drum head, indicating the point to which the accumulated mucous had risen. The entire membrane, except the flaccid portion, seemed to be tense in each ear. Both ears were practically in the same condition. Inflation of the middle ear was done on both sides; but it gave no relief. He was not conscious that the air entered the ear, nor could I hear any evidence with the otoscope that it did so. Inflation did not produce the characteristic air bubbles, which are visible when the mucous is less viscid. The next day his condition was about the same, but his hearing was rather worse. Inflation of the middle ear was again tried; but its results were negative. I then proposed paracentesis of the drum-heads, and did the operation at once. A free incision in the membrane posterior to the manubrium was made in both membranes. This was followed by a gush of stringy, tenacious, amber-colored fluid, which seemed to fill the meatus. It was so viscid that when a cotton probe was introduced into the meatus, to mop it out, it hung to it like a yellow rope.

Both drum heads were operated on, and with similar results. The ears were then inflated with the air bag, and the viscid contents of the tympani forced into the meatus. The next day some mucous escaped from each ear on inflation, but the following day the incisions had healed. His hearing was immediately improved after the paracentesis, and in a week he was discharged. In this case there were no symptoms of vertigo.

CASE III.—F.; 50. States that for the past week she has been getting deaf in both ears, and has had considerable pain of a pulsating character, together with loud tinnitus. Her condition has grown gradually worse each day. Previous to this attack, she has always had excellent hearing. She suffered very much from autophony, which was very distressing at all times. She had to be spoken to in a moderately loud tone of voice, and the watch could not be heard on either auricle. The right drum membrane presented a dull, grayish appearance, and the posterior and flaccid portion bulged very much. The lumen of the meatus seemed unusually narrow for an adult, and it was impossible to see below the end of the handle of the malleus. It seemed as if the lower wall of the meatus was unusually arched. The left drum membrane presented a dull, reddish color, and was very much injected, and there were two small ecchymoses under its dermoid layer, and one on the lower wall of the meatus, close to the drum-head. The posterior and flaccid portions of the drum membrane bulged enormously. Here also the lumen of the meatus seemed narrower than normal, and it was impossible to see the lower half of the drum-head. Inflation, by the air-bag, was negative, and I proposed an immediate peracentesis of both membranes. This was done at once, but with some difficulty, for reasons above noted, and the incisions were not as long as I desired to make; but little mucous escaped from either ear. During the night she applied dry heat to both ears, and soon the flow began, and continued freely all night, soiling several pieces of absorbent cotton. The secretion was of a light, yellowish color.

The next day hearing was decidedly better in both ears, but the flow continued. On the fourth day, the wound in the left drum closed, and on the sixth day in the right drum. On the eighth day, the left drum membrane appeared nearly normal and hearing was quite good. The bulging of the flaccid portion had almost disappeared. The lumen of the meatus seemed to be normal, and the lower portion of the drum could be seen. The right also was much improved in appearance, and hearing good; but slight tinnitus continued. The change in the lumen of the meatus of both ears must have been due to a swelling or œdema, which interfered with inspection of the lower portion of the drum-head when first seen.

Case IV.—Otitis media serosa; tympanic cavity half filled with viscid mucous, treatment by inflation, recovery.

M., 40. Had had some slight catarrhal trouble of the nose for a few weeks past, but it excited no interest until the right ear began to be deaf. There was an uncomfortable sense of stuffiness in the ear, which was at times better and worse. On inspection, it was found that the lower half of the tympanum was filled with mucous, which was marked by a black hair line running across the membrane. The lower portion of the drum-head had a yellowish color, while the upper portion was grayish. Upon inflation, with the air-bag, bubbles of air were seen to rise above the hair line, and this treatment gave relief to the deafness, which was not very pronounced. There were no indications for a paracentesis, and the treatment by inflation was continued, with applications to the nose and naso-pharynx. The mucous gradually diminished in quantity and in a few days disappeared entirely, and the hearing was fully restored.

In these cases we have three types of the disease. In the first one it was chronic in character, running on for about three months, with exacerbations at times, and characterized by symptoms of vertigo, which excited alarm lest they might be caused by some cerebral distress. Then the acute symptoms developed, with increased bulging of the drum-head and pain. In the second case, the mucous accumulated in both ears within a few days; there was no pain, only the deafness. The distention of the drum-heads was enormous, and the amount of mucous in the cavities surprisingly large. The restoration of hearing was prompt and complete. In the third case there was very marked distention of the entire membrane, including the flaccid portion. There was also some pain. An attempt to stoop forward produced decided vertigo. After the operation this symptom disappeared entirely. There was also narrowing of the lumen of both meatus. In the fourth case, the mucous only half filled the drum cavity, and upon inflation the air bubbles or "froth" could be plainly seen. This treatment gave relief, and the mucous subsided within a few days, with restoration of hearing.

The Montreal Meeting of the British Medical Association.

The British Medical Association will hold its 67th annual meeting at Montreal on August 31st and following days. The meeting will only be open to members and special invited guests. Of the latter there will a large and representative American list. This is the first time the Association has met outside of the British Islands. The section of Laryngology and Otology will be presided over by Dr. Greville Macdonald, London; vice-presidents, Drs. Tobin, Halifax; G. Sterling Ryerson, Toronto; W. H. S. Birkett, Montreal; secretaries, Dr. W. H. D. Hamilton, Montreal, and Dr. W. W. Permewan, Liverpool. A programme of the proceedings is not yet ready for publication

The Medical Review of Reviews,

Of which Dr. Dan'l Lewis, President of the N. Y. State Board of Health and Secretary of the N. Y. Medical Society, is proprietor, succeeds the *American Medical Review.*

CLINICAL REPORTS.

REPORT OF INTERESTING NOSE AND THROAT CASES.

BY J. WALTER PARK, M.D.

Surgeon Eye, Ear, Nose and Throat Department, Harrisburg Hospital; Fellow Harrisburg Academy of Medicine, etc., etc., Harrisburg, Pennsylvania.

There are so many interesting nose and throat cases in one's private as well as hospital practice that, if reported to the profession in general, some one is always sure to be benefited thereby. In looking over my case-books I have selected a few which, to me, were very interesting indeed, and therefore take the liberty of reporting them to the readers of THE LARYNGOSCOPE.

LARYNGEAL REFLEX COUGH.

Miss M——, aged 40, came to see me January, 1894, complaining of a chronic cough which she says she had been having for over three years. She had been under the care of several eminent physicians, each one of whom seemed to attribute the cause to some chronic laryngitis, as well as bronchitis, but all treatment seemed of no avail. After examining her very carefully, and very thoroughly, I could find no apparent cause. Her larynx, even down below the vocal cords, seemed entirely normal, and did not even present a hyperæmic condition. She had, however, some hypertrophy of both tonsils, which I finally persuaded her to have cauterized. This was done several times, until they were very materially reduced in size, with the most happy result of the cough entirely disappearing; and about one year afterwards, when I last saw her, she was still entirely well. This seem to me to be entirely reflex in character, due, no doubt, to a neurosis involving probably the internal branch of the superior laryngeal nerve. Laryngeal coughs of a reflex character are frequently observed, but when due to hypertrophy of the tonsils they are, comparatively speaking, rare.

ANGIOMA OF INFERIOR TURBINATED BODY.

Mr. B. came to my office October, 1896, complaining of frequent attacks of epistaxis, stenosis of right nostril, and frequent attacks of headache. An examination revealed what I thought at first to be a myxomatous growth of the inferior turbinated body; but after examining it carefully with a probe I discovered its pedicle, and noticed that it bled very freely, which, of course, put me on my guard. It was attached about midway back, and of a dark purplish color, and very vascular. I removed it very slowly with the cold snare. The first day I had very little hemorrhage to contend with, but the second it became quite profuse and very difficult to control. It was fully a week before all hemorrhage had ceased. When it finally had healed up I could barely discover a cicatrix. A careful examination proved it to be a true angioma, composed of a complete network of dilated blood-vessels, held together by connective tissue, and each seeming to run its own distinctive course. In looking up the literature upon this subject I find that true angiomas are rare, most cases so reported being of a myxomatous type. The treatment, after its removal and final control of the hemorrhage, was entirely antiseptic in its character, by spraying out the nose with a boric acid and chloride of sodium solution. There has been no return of the growth up to the present time.

SNEEZING DUE TO EYE STRAIN.

This case is one that belongs to the category of ophthalmic reflexes, but on account of the clinical history of the case I at first treated it as a nasal reflex; hence the reason for classifying it among my nasal cases. Miss C., aged 35, consulted me October, 1895, for frequent sneezing attacks. These paroxysms came on daily, when she would sneeze from forty to one hundred and fifty times during the day. I examined both nostrils very carefully, but could not find any sensitive areas in either fossæ, nor any hypertrophy of the turbinateds to which I could attribute the cause. I finally decided to do some cauterizing at several places, which seemed to me might do her some good; but after repeated trials of the galvano-cautery point, it did not seem to benefit her any in the least. She frequently complained of headaches, and wondered if her eyes might be the cause. A careful examination showed the existence of comp. myopic astigmatism in both eyes. Her vision under a mydriatic $= \frac{15}{40}$ in R. eye, and $\frac{15}{20}$ partially in L. eye. Her formula was the following:

R. Sph. — .50 *c* cyl. — 1. D. Ax. 90 $= \frac{15}{15}$.
L. Sph. — .50 *c* cyl. — .25 Ax. 90 $= \frac{15}{15}$.

I advised her to wear these constantly. In a few weeks she came to see me, and said she had come on purpose to tell me that her sneezing had practically stopped, and that she immediately noticed the change the next day after putting on the glasses. It is now about five months since she began wearing her lenses, and still remains free from the paroxysms of sneezing. We have numerous cases of epiphora, photophobia, local conjunctivitis, etc., which are reflex in character, and due to some nasal disease of some kind; but we do not have many cases on record in which the correction of errors of refraction remedies the reflex condition of sneezing. This case clearly demonstrates the fact that we should watch the eyes carefully for diagnostic purposes in what we suppose to be nasal reflexes, as well as we should watch the nose in ocular reflex conditions.

FOREIGN BODIES IN EAR.

A gentleman who is in the habit of making annual visitations to Texas cattle ranches, came to consult me about two weeks after one of his visits to the South, regarding a somewhat unusual dullness of hearing in his left ear. He has had chronic progressive deafness for quite a number of years, but seemed to notice that his hearing in the one ear was so much worse within a few weeks prior to him consulting me that he thought there must be an accumulation of cerumen causing the extra deafness, and requested me to make a thorough examination of his ear. After looking into the ear with reflected light, I removed with my ear-forceps what proved to be a Texas cattle tick. He suffered no pain or inconvenience any more than the extra amount of deafness. It had fastened itself upon the membrana tympani, near the short process. There was a small extravasation of blood between the external and middle layers, which had not entirely disappeared three months afterwards. His usual acuteness of hearing returned immediately, with no untoward inflammatory symptoms. This case is quite interesting on account of the kind of foreign body removed, and the patient feeling no discomfort excepting the extra amount of deafness.

32 North Second Street.

ABSCESS OF THE SEPTUM.

Dr. Kicer's paper on Hematoma Septi Nasi, in the last LARYNGOSCOPE suggests the report of the following:

H. T., 23 years old. I removed with saw, under careful antisepsis, a growth from the cartilaginous septum of left naris, Dec. 30th.

During the following night a sharp bleeding came on, which was finally stopped by a plug of newspaper, inserted by the patient. Two days later he had sore throat, bilateral nasal stenosis, and the usual symptoms of the then epidemic follicular tonsilitis. Under treatment he was, in 48 hours, relieved of all discomfort, save the bilateral nasal stenosis. This persisted, and on January 13, I aspirated 1 oz. of pus, with immediate relief of the stenosis, which did not recur. Patient discharged well on Feb. 1.

EDWARD J. BROWN, M.D.
Minneapolis, Minn.

ABSCESS AT THE ANGLE OF THE JAW, POINTING IN THE AUDITORY CANAL.

The patient, a young lady, was sent to me by a physician of a neighboring town for operative treatment for a supposed mastoid trouble.

Temperature 101°, pulse rapid, face flushed. Purulent discharge from left ear. Hearing absent, for watch on contact. Auditory canal so much occluded by swollen tissues that examination of ear was unsatisfactory. Large swelling on left side at the angle of the jaw, extending upwards over the lower portion of the mastoid process. Incision made over the tip of mastoid, from which a small amount of pus escaped. A director was pushed downwards into a large abscess cavity. Pressure upon the swelling expelled the greater part of the contents of the sac through the auditory canal. A strip of iodoform gauze was pushed into the sac, and the ear cleansed with an antiseptic solution. Recovery was rapid, with complete restoration of the hearing.

There is nothing worthy of note in the above recorded case, except the peculiar site selected for the pointing of the abscess, which was near the junction of the cartilaginous and osseous portions of the floor of the external auditory canal.

B. F. BUTLER,
London, Canada.

A Joy to Its Friends and a Terror to Its Foes.

A *Journal* that gladdens the heart and delights the understanding every month is the *Texas Medical Journal* (Austin, Tex.), otherwise known as the "*Red Back.*" As Chimmie Fadden would say, *it is up to de limit.* Standing for the ethical in both medicine and journalism, it is the uncompromising foe to the medical pretender and adventurer. It is a joy to its friends and a terror to its enemies; *suaviter in modo, fortiter in re.* There is but one *Texas Medical Journal*, and Brother Daniel is the editor thereof. May its vigor never perish, nor its complexion fade.—*Atlanta Medical and Surgical Journal*, January, 1897.

Dr. J. Chalmers DaCosta

Has been elected Clinical Professor of Surgery of the Jefferson Medical College. This appointment was made in recognization of his known service and valuable contributions of surgical literature.

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EDITORIAL.

REFLEXES.

We desire to especially call the attention of our readers to the interesting series of original papers in this issue bearing upon the subject of reflexes. As is intimated in one of these communications, almost every physician occasionally meets with peculiar and interesting cases of such reflexes in his private or hospital practice. Short, pithy reports of such cases will interest many members of the profession, and we request our subscribers to give the profession at large the benefit of their experience through our pages.

CHANGE OF DATE OF ISSUE.

As the meeting of the Laryngological Section of the New York Academy of Medicine takes place the latter part of each month, it has been found necessary to change the date of issue of THE LARYNGOSCOPE to the 10th of the month. This will be of great benefit to our readers, as it will give them the proceedings at an early date.

NEW YORK ACADEMY OF MEDICINE PROCEEDINGS.

At the January meeting of the Laryngological section of the New York Academy of Medicine, THE LARYNGOSCOPE was selected to be the official journal of that eminent organization for the ensuing year.

It is indeed gratifying to receive such recognition, as this scientific body numbers among its members many of the most prominent authorities in this country. We feel highly honored that THE LARYNGOSCOPE should be chosen to disseminate these transactions, and sincerely trust that our readers will appreciate the flattering recommendation this selection carries with it. Though young in years, we nevertheless feel the dignity of our position in this matter, and thoroughly realize the importance of representing an association whose brilliant work and original thought has earned an exalted position in the medical world.

Many of its members are teachers in our renowned medical schools, so that the readers of THE LARYNGOSCOPE, who are not in a position to visit the seat of advanced medical knowledge may find in our columns information of a practical character, which will possibly act as a valuable substitute.

There is, probably, no city in America which offers such a variety and wealth of clinical material as the ''metropolis.'' These pathological phenomena appear before societies interested in their special features, and, therefore, those who peruse the pages of this journal will no doubt appreciate the many unique cases which are apt to be described in the near future.

Emigration has brought to our immediate attention instances of disease, the like of which were formerly seen only in distant climes. Cosmopolitan, as this great commercial centre now appears, we naturally witness many peculiar deviations from the normal in the different types of humanity located in our midst. The poorer element necessarily seek medical attention in charitable institutions adapted for special treatment, so that cases of unusual interest are not infrequently observed, and are then exhibited before our scientific societies. Thus the profession at large are offered the opportunity of becoming acquainted with new and important facts by reading over the transactions of the various medical meetings, which are usually published in the current medical journals.

Up to the present time, the full reports of the New York Laryngological Section have never appeared in any of the American journals devoted to diseases of the nose, throat, and ear, and, consequently, we appreciate the great distinction conferred upon us.

Our efforts are directed to offer concise, original, and practical information, and our ambition is to present to our readers the essence of advanced knowledge gleaned from every source. Foreign, as well as American current literature is thoroughly searched, and the digestible portions always find a welcome resting place in THE LARYNGOSCOPE. We number among our foreign editors men who are pre-eminently endowed with the ability to contribute worthy food for reflection, and their established reputations must be accepted as a convincing criterion. M. D. L.

SOUTHERN SECTION OF THE AMERICAN LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL SOCIETY.

The meeting of the Southern Section of the American Laryngological, Rhinological, and Otological Society, held in New Orleans, March 3rd, was an unqualified success, both scientifically and socially. Dr. W. Scheppegrell, President of this Section and Vice-President of the American Laryngological, Rhinological, and Otological Society, is to be congratulated upon the very happy conclusion of this, its first meeting, and the members of the Society are to be congratulated in having had such a pleasant and profitable gathering.

The fact that THE LARYNGOSCOPE was unanimously chosen as the official organ of the Society is a just recognition of its worth, and we feel sure that the readers of THE LARYNGOSCOPE will appreciate the work done. A summary of the papers, and discussions thereof, in another part of this issue, will be found most interesting and instructive.

CONTRIBUTIONS TO THE APRIL ISSUE.

The April issue of THE LARYNGOSCOPE will contain original articles, editorials, transactions of the Laryngological Section of the New York Academy of Medicine, society proceedings, and the usual condensation of the principal articles from current literature. The following list of original communications will appear in the April issue, or as soon thereafter as possible:

Dr. Chas. H. Knight, New York: "Exostosis of the Septum as a Cause of Chronic Nasopharyngitis."

Dr. Ziem, Danzig, Germany: "The Relation between Nasal and Mental Diseases."

Dr. J. A. Stucky, Lexington, Ky.: "Turbinectomy, or Resection of the Middle Turbinate: Report of One Hundred and Twenty Operations."

Dr. J. E. Schadle, St. Paul, Minn.: "The Post-Nasal Lymphotome."

Dr. L. L. Mial, New York: "A Mechanical Saw and Septal Plane."

Dr. E. W. Heltman, Toledo, O.: "Deviation of the Cartilaginous Septum—What Means of Support after Operation?"

Dr. E. C. Ellett, Memphis, Minn.: "Two Cases of Abscess of the Nasal Septum."

Dr. W. F. Strangways, Flint, Mich.: "Hay Fever."

Dr. W. Scheppegrell, New Orleans: "The Progress of Laryngology."

Dr. E. Harrison Griffin, New York City: "The Mixed Sore of Tuberculosis and Syphilis of the Larynx."

Dr. J. E. Newcomb, New York City: "Defects in the Faucial Pillars."

Dr. J. B. Keber, St. Louis: Report of Two Interesting Cases.

Dr. Augustus McShane, New Orleans: "Two Cases of Foreign Body in the Trachea; Tracheotomy; Recovery. Cicatricial Atresia of both Choanæ."

Dr. Edw. Pynchon, Chicago: "The Evolution of the Buttles' Inhaler," illustrated.

Dr. Wm. Porter, St. Louis: "A New Diagnostic Sign in Thoracic Aneurism."

Dr. M. D. Lederman, New York City: "Furunculosis of the External Auditory Meatus Followed by Suppurative Otitis Media with Mastoid Involvement and Operation."

Dr. John Sendziak, Warsaw, Poland: "Contribution to the Treatment of Deaf-Mutism by Operation for the so-called Adenoid Vegetations."

Dr. O. F. Gambati, Houston, Tex.: "The Relation of the Teeth to the Ear, Nose and Antrum."

Dr. B. F. Butler, London, Canada: "Excision of Membrana Tympani and Malleus for Attic Disease."

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON LARYNGOLOGY AND RHINOLOGY.

January 27th, 1897.

Joseph W. Gleitzmann, M.D., Chairman.

PRESENTATION OF INSTRUMENTS.

a. Dr. J. E. Giles presented a device for controlling the Edison current for cautery.

Advantages claimed for the apparatus were: the low cost of apparatus; the low cost of running; and the fact that there was no patent on it.

b. Dr. J. W. Gleitzmann showed a device for controlling street current for cautery, light, and motor.

It transformed an alternating into an Edison current.

c. Dr. J. E. Newcomb showed a snare for removing tonsils.

The common steel wire was used instead of the more expensive irido-platinum wire

PRESENTATION OF CASES.

Early Diagnosis of Epithelioma of the Larynx.

a. Dr. Wendell C. Phillips showed the case which formed the subject of his paper on "Early Diagnosis of Epithelioma of the Larynx," read at the December meeting.

b. Dr. A. G. Gerster then showed a patient from whom he had removed an epitheliomatous tonsil with preliminary tracheotomy. He did the Czerny operation.

Dr. Gerster also presented a specimen from a total extirpation of a sarcomatous larynx. When seen early an operation was advised, but patient refused; later, the dyspnœa was so extreme that an operation for its relief was proposed and consented to. So far as relieving the patient's distress was concerned, the operation was a successful one. But, unfortunately, three weeks after operation the growth recurred, and four weeks later he died. His death was so sudden, and without visible cause, that the Doctor thought it possibly due to an inhibitory action on the vagus from ptomaines developed at the seat of the operation. Or else it might have been due to a septic neuritis—a condition mentioned by a German writer.

Dr. Gerster ended his remarks by briefly relating the results of five cases of laryngectomy that he had performed.

The cases were discussed by Drs. F. J. Quinlan, Felix Cohn, M. J. Asch, T. P. Berens, W. E. Giles, A. G. Gerster, and others.

Paper of the evening then followed.

Why are Operations upon the Turbinated Bodies Becoming Less Frequent?

The paper of the evening was read by Dr. Clarence C. Rice on the above subject.

To some of the profession, the younger members at least, it may not be apparent that the nasal turbinated structures are receiving far less surgical attention at the present day than they did at an earlier date. Then nearly one-half of the articles relating to nasal disease, published by American writers, discussed the comparative values of the many instruments devised for operating upon the nasal turbinates.

When we consider that prior to 1880 the treatment of nasal catarrhal inflammations was almost entirely the local application of rough astringents, we appreciate how advantageous it was to get away from such unscientific therapeutic measures, even though it was through the medium of the cold snare and crushing forceps.

He thinks the conviction must have been forced upon us all during the past year or two that surgical interference with the turbinated structures of the nose, in this city at least, is becoming less frequent. We do not see the marked hypertrophies of the anterior and posterior ends of the tubinated as frequently as we did ten years ago. Perhaps it is due to the better hygienic surroundings and the increasing habit of using proper cleansing solutions through the nose, and proper protectives; or did some seem large because we wanted to remove them?

He believed that the reason that operations on the turbinated structures were less frequently performed to-day than formerly, was that we no longer believe that every enlargement of these tissues are either a true bony hypertrophy, a hyperplasia, and if enlarged that they are the primary trouble.

We were fond, in years gone by, of stating the different stages of inflammation of these structures, phenomena peculiar to them, because of their peculiar anatomy; and we believed, although they were changeable in size and appearance, at times blocking the nostrils and at the next observation gone, that nearly all of them at length reached the point when vascular distention was constant, and that they constituted the primary lesion in producing nasal obstruction, and required removal to clear the nasal passages. This was before the time when abnormalities of the nasal septum were receiving much attention. It soon became noticed, however, that after the turbinated structures had been thoroughly leveled by operation, that cartilaginous and bony enlargements of the septum remained to obstruct the nasal passages. Later, it was discovered that the primary removal of these outputs from the septum seemed to have a very quiescent influence upon the swelling of the turbinated structures.

To-day, instead of considering the inferior turbinated swellings the primary or more important factor of nasal obstruction, we appreciate how often they are enlarged because of interference with the nasal circulation, or because of irritation produced by the pressure of a deflected septum, or of a bony and cartilaginous septal spur, nasal polypi, disease of the accessory sinuses, ulcerations, foreign bodies, etc. On the other hand, Dr. Ingals, in an article written as late as 1894 on "Cauterization of the Nares," etc., speaks of "hypertrophic," "intumescent," and "simple rhinitis." Nineteen hundred of his cases of hypertrophic and intumescent rhinitis were cauterized 2,850 times, an average of one and one-third time for each patient. He speaks of the possibility of fever, follicular tonsilitis, adhesions in the nostrils, rarely severe hemorrhage, inflammation of the Eustachian tube and middle ear, and erysipelatous inflammation following the use of the galvano cautery in the nostril.

In his own work of late years he has not felt the necessity of cauterizing the inferior turbinated, usually finding it enlarged because of other and more primary lesions.

Harrison Allen (Trans. 1890, page 16) made a very careful study of the so-called "posterior hypertrophies," and came to the conclusion that they should not be operated upon, because they were usually produced by interference with the circulation, even by lesions so remote as enlarged tonsils. He cites a number of cases in which the pressure of the inferior turbinated body upon the floor of the nostril was the occasion of the posterior swelling. As a rule, there is enough soft tissue on the floor of the nose. which when removed will restore normal circulation through the turbinates. The same may be said of the wedging of the middle turbinated against the septum. Of course, there are condititions of the middle turbinated, such as polypoid degeneration and the swelling due to ethmoidal disease, in which cure is only to be effected by the removal of a portion of the bone.

The bad judgment in always considering turbinated enlargements primary, and in operating upon these structures, reached its climax when we found ourselves removing the inferior turbinated when its increased size was due to an irritating discharge from the antrum or the ethmoidal cells. We feel to-day that it is largely immaterial whether there is a moderate amount of connective tissue hypertrophy or whether the swelling is due to distended blood-vessels, because we expect and nearly always find a pathological process in some part of the nasal fossa other than the turbinated. It was the prevailing belief that chronic nasal catarrh before it lapsed into an atrophic condition was invariaby characterized by hypertrophy of the intra-nasal tissues, constantly increasing until they were so enlarged as to block up the posterior nares. A writer at this time said that "so great is the tendency of the inferior turbinated to become hypertrophied that I have been induced to adopt the rule of looking for an increase in its dimensions as an indication of the extent and character of the disease." He says also that "hypertrophy of the inferior turbinated is more frequently met with than any other form, and so common that we have been forced to recognize it as a distinct peculiarity of this disease."

These opinions are quoted to show that they were the generally accepted belief of rhinologists of that time, and that the removal of these structures by the snare was the logical treatment. Intelligent work was accomplished by Harrison Allen and by Delavan in the examination of crania for the purpose of deciding upon the frequency of osseous hypertrophy of the turbinated structures.

Delavan speaks (Trans. 1882, A. L. Assoc., page 44) of the peculiar membrana-mucosa of this region, which not only forms a fibrous net-work for the support of the blood-vessels, but which passes into the periosteum, so that an increase of blood supply to the soft parts at the same time was carried to the periosteum, and there was a reasonable tendency to osseous hypertrophy. It was found that the middle turbinated was the one most frequently enlarged, and usually in a nostril made wider than its fellow by a deflected septum.

Harrison Allen (Trans. 1883, A. L. Assoc., page 84), in an article on "Asymetry of the Nasal Chambers," speaks of a congenital shortness of the vomer, which he called the "recedent vomer," which allowed the posterior ends of the inferior turbinated bones to touch each other.

Those were good words of Dr. Shurley, who in 1884 said: "In this cold, damp atmosphere of our northern climate I can conceive no reason why the nasal mucous membrane should not be well filled with blood to act as a heating apparatus." Very soon rhinologists began to consider seriously whether it was wise to replace normal mucous membrane with cicatricial tissue following operation, as results proved that a moderately obstructed nostril was more comfortable to the patient than one in which a large portion of the mucous membrane had been removed, and in which dryness of the nasal passages and pharynx was the constant condition.

Another very potent reason, explaining why we are operating less upon the turbinated structures to-day, exists in the fact that we are appreciating more and more that there are many constitutional conditions which may easily cause general congestion of the nasal circulation, and of the turbinated bodies in particular.

Dr. Beverly Robinson, a few years ago, did not overstate the very important relation between nasal congestion and derangement of function of almost any of the organs of the body.

The rheumatic and gouty diathesis in its relation to nasal disease has also deservedly received considerable attention. Hinkle (Trans. 1889, page 128) speaks of the "obstinate relaxation of the venous plexuses" of the turbinateds in lithæmic subjects, associated with the gouty pharynx. It is a well-known fact that an excess of uric acid contracts the blood vessels, causing anæmia of the brain, headache, dizziness, etc.; and it undoubtedly contracts the arterioles in the turbinated bodies, thus compelling transudation of serum, and producing the pale, boggy nasal swellings which we are familiar with.

He was impressed with the value of a short article on "The Pathology and Treatment of Nervous Catarrh," by Dr. Bishop, of Chicago (*Journal of Amer. Med. Assn.*, Nov. 25, 1893). In this paper he quotes largely from experiments by Dr. Haig and from Murchison. He believes that an excess in the blood of uric acid, one to twenty-five of urea instead of one to thirty-five, is not only capable of causing nervous coryzas, like hay fever, but also the ordinary catarrhal swellings. A number of investigations showed that shortly before the attack of hay fever, uric acid was found in much larger quantities than normal in the blood, but was largely reduced by the violent sweating during the exacerbation. He was able to ward off attacks of hay fever by the administration of acids, at bed time and in the early morning, when the blood was most strongly alkaline and when, therefore, it was the best solvent for uric acid. The slightly acid condition of the blood thus produced precipitated the uric acid into the tissues. The abuse of alcohol and tobacco as a cause of nasal congestion cannot be too strongly stated.

"An Experimental Study of the Respiratory Functions of the Nose." by J. L. Goodale of Boston (*Boston Medical and Surgical Journal*, Nov. 5, 1896), which, by the way, was awarded the Boylston

Medical Prize, is well worth reading. Experiments were performed to ascertain the action of the nasal mucous membrane upon atmospheric air at various degrees of temperature, cold, medium and warm, and of variable degrees of humidity. He found, as had several investigators, that the humidity of air in passing through the nose was raised to the point of saturation, while in oral inspiration and expiration it was raised to 97 per cent. Unfortunately he has not as yet tabulated the results of his experiments, showing the inferiority in heat and moisture units of the inspired air currents when passing through a nostril in the condition of atrophic rhinitis as compared with air which has been expired through a normal nostril; but other observers have noticed marked diminution in both heat and moisture. Familiar with such physiological action, we are more and more loath to destroy it.

In conclusion he emphasizes these points as being the reasons for the lesser amount of surgical work upon the turbinated bodies.

(1) A very small percentage of anterior and posterior turbinated swellings constitute neither true bony or soft tissue hypertrophies, but are simply vascular distensions caused by some irritant in the nostril itself or extranasal, and when the irritants are removed the vascular swellings disappear without more than cleansing and protecting treatment.

(2) That the pale enlargements seen in so-called "nervous coryzas" are not often the primary lesion in the nostrils, but are secondary usually to abnormalities of the septum, although the nasal irritability is also due to an external irritant plus the "peculiar idiosyncrasy."

(3) Nasal congestion and turbinated enlargement may be caused by anything interfering with the general circulation, by digestive disorders, by functional derangements of the various organs of the body, by faulty hygienic conditions, and especially by the excessive use of alcohol and tobacco. The correction of these errors is sufficient.

(4) Conservative rhinologists feel that it is most important to check the large amount of unnecessary interference with the turbinated bodies.

(5) It has been found that by proper cleansing and by suitable protection of the nasal mucous membrane, so-called hypertrophies will often disappear without the use of destructive agents.

The following gentlemen took part in the discussion of Dr. Rice's paper: Drs. J. W. Gleitsmann, O. B. Douglas, F. J. Quinlan, W. Freudenthal, and J. E. Nichols.

Friday Evening, February 24th, 1897.

Joseph W. Gleitsmann, M.D., in the Chair; T. P. Berens, M.D., Secretary.

PRESENTATION OF CASES.

Angioma of the Lingual Tonsil.

a. Dr. Jonathan Wright presented a case of angioma of the lingual tonsil. He first saw the patient last summer, when he noticed a mass situated between the tongue and epiglottis buried in lymphoid tissue. Last Christmas he again saw and examined the patient, when he found that it connected with a larger mass situated beneath it. He had a peculiar history. Twenty years ago a large mass appeared upon the right gum, which was cauterized. Nævi have also appeared upon the face.

Until this growth shows evidence of discomfort he will not attempt its removal, which he considers a serious procedure on account of the hemorrhage that follows.

The trouble is that the galvano-cautery point is useless on account of the welling up of the blood. The larger paquelin cautery would be necessary to destroy it; the larger growth below this could not be destroyed with the cautery.

DISCUSSION.

Dr. Gleitsmann thought the use of the galvano-cautery a serious matter. He injected perchloride of iron into the vascular tumor.

b. Dr. Frothinham showed a case of fibroma.

Anatomical Defects in the Faucial Pillars.

a. Dr. James E. Newcomb read a paper with the above title. He stated that a number of cases had been reported in recent years in which the defect has been in the shape of an oval perforation of one or both of the faucial pillars. Some of these cases have been regarded as the result of ulceration or other destructive process, while others are regarded as congenital. These cases have generally presented a hiatus on each side of the throat at the point where the pillars unite with the soft palate. The Doctor then described the physical characters of these openings. Along with this condition the tonsils have been frequently found in a rudimentary state.

Two classes of cases have been noted: one in which the etiological factor has been some destructive process, and the other where neither the history of the case nor the appearance afford any such explanation. Some authors consider this second class congenital; but lack of knowledge of previous faucial lesion on the part of the patient cannot be taken as conclusive. Symmetrical situation of the lesion and absence of cicatricial tissue argue in favor of congenital origin.

In all, but thirty-one cases have been reported.

Dr. Newcomb reported three cases as follows:

Case I. Female, thirty-five years of age; specific disease, gummy deposits in both anterior pillars with subsequent tissue destruction, leaving both palato-glossus muscles distinctly isolated.

Case II. Girl, twenty-two years of age. Oval perforations in the upper part of both anterior pillars; no history of preceding faucial trouble.

Case III. Man, twenty-eight years of age, with a small, round opening through the left anterior pillar; no history of previous faucial trouble, or knowledge that he had such physical peculiarity.

Dr. Fowler, who has seen at least four cases of palatal defects, maintains that in all such a history of previous scarlatina angina or recurrent quinsies can be elicited, and that close inspection will always reveal scar tissues. He also believes that rudimentary tonsils are the rule in these cases.

The doctor then cited the theories of Mourier, Boucheron, Schappinger, and Meijes in regard to the causation of this defect.

All these cases are in the main free from symptoms, and the defects have come to light during routine examination. The main point of interest centers about the mode of origin of these tissue gaps in those cases in which we can exclude antecedent syphilitic or other destructive processes.

Testute, the French anatomist, is inclined to believe that these perforations are to be considered not as normal depressions unobliterated during fœtal life, but rather as an embryonic absorption of fœtal tissue previously formed.

Broeckaert suggests that they may be analogous to the partial persistance of the pharyngeal clefts, which are sometimes met with in the form of fistula more or less complete, and situated toward the bottom of the lateral wall of the pharynx.

DISCUSSION.

Dr. Toeplitz opened the discussion. He said he had seen one or two cases where openings had remained after operation for peritonsillar abscess. He could offer no explanation why openings were in the middle line.

Dr. Mayer then called attention to the fact that anatomical defects of the pharyngeal wall may exist and show themselves without being due to a specific disease. If congenital in origin, we would see this condition more often in children; whereas the opposite holds good.

Dr. Simpson had seen cases associated with histories of inflammation, more especially specific.

Dr. Gleitsmann said that cases reported are rare. Syphilis makes a perforation of different character. The edges are smooth, and the edges of the mucous membrane are very thin. The edges of the palate in syphilis are irregular in contour.

He thought that if openings are left after incision of a peritonsillar abscess, the method of operating was at fault. He cut perpendicularly, and deep and long; then the cut became smaller as the tissue contracts.

Dr. Newcomb then closed the discussion.

Chronic Hypertrophy of the Lingual Tonsil.

(*b*) Dr. Francis J. Quinlan read a paper with the above title.

As the term implies, it is used to designate an abnormal development of lymphoid tissue at the base of the tongue. Swain, in his observations of nearly one hundred and ninety cases, points out the many conditions seen in the different forms of this inflammatory affection.

According to Lenox Browne, the throat it studded with two sets of glands, namely, acinous and lymphatic. The former have a special lubricating function, while the function of the latter is a subject of speculation. As they have been placed at the beginning of the respiratory and digestive tracts, it seems a good reason for regarding them as intended for some specific purpose in the economy of this tract.

Hill has found that the tonsils, whilst receiving the products of absorption through the lymphatics of the neighboring mucous membrane, are to be regarded on the whole as secretors of leucocytes. These leucocytes are considered as scavengers, devouring germs, and playing an important role in amyolitic digestion.

Mention has been made of the marked vascularity of these parts. At times distension of these veins has been sufficiently great to cause more or less venous leaking, so that the term "throat piles" has been justly applied to this condition. Dickson considers these varices diagnostic of thrombotic and hemorrhagic lesions of the brain, as well as indicating marked cardiac weakness. Diabetes has been found to be frequently associated with these vascular lesions. The lymphoid habit is regarded by Bosworth and others as a cause of these hypertrophies.

We find the same causes acting as factors in the production of these hypertrophies as those exciting pharyngeal and faucial enlargements. Most observers believe that undue congestion may be produced by partaking of liquids and foods whose pungency is apt to cause irritation of the glandular masses within the buccal cavity.

This disease is one of adult life, although it may be encountered earlier.

Sixty-six per cent. of cases met with were among females; in them the trouble seems to affiliate with the menstrual irregularities, as well as to the many depressing conditions incident to the menopause.

Pharyngeal tenesmus should be mentioned, which arises from imprisonment of the epiglottis by the mass of tissue which attains so large a size as to interfere with phonation, respiration and even deglutition itself. Many writers have noticed that the so-called winter cough was due indirectly to the presence of this tonsillar body.

Tinnitus aurium and radiating pains toward the ears are at times complained of.

In the mild cases, painting the lingual tonsil with weak solutions of iodine, zinc and silver will be of benefit. In the more severe cases the application of the cautery, the knife, and the snare is deemed imperative by many. Trichlor-acetic and chromic acid are sometimes productive of good results. In large proliferating and erectile masses the snare can be used to advantage; antiseptic compounds of boric acid and listerine if disease of the teeth and gums exist; menthol preparation in oil has been suggested.

Internal medication should not be neglected.

It is the opinion of the writer that much mischief is occasioned by the use of the cautery. Mutilations by the galvano-cautery or the heroic agents may predispose to malignant disease.

The writer prefers the knife; and clean cut, well defined incision of these parts often prevents the disagreeable reaction which so often follow other methods of treatment.

DISCUSSION.

Dr. Chappell wished to call attention to the fact that different symptoms produced spasm of the glottis. Very often associated with some digestive disturbance, as in one case he reported, and which was cured by the application of the cautery. The Doctor reported a second case of a woman who suffered from these attacks, presumably brought on by taking proprietary medicines for the reduction of her flesh. Application of the cautery also produced a cure in this instance.

Attacks so often follow intestinal and stomach troubles that the use of calomel and nux vomica are often followed by good results.

Dr. A. Rupp thought it well that in a disease of this kind, which is so very frequently associated with other pharyngeal and laryngeal diseases, and the symptoms of which are so closely inter-related with all the symptoms of throat diseases generally, clear or specific, definite symptoms should be differentiated which would be characteristic of this affection.

He narrated a case of moderately hypertrophied lingual tonsil, which gave rise to no particular symptoms, except where other acute throat inflammation co-existed. After the subsidence of acute inflammation, the enlargement of the gland becomes less too, and, as in the case of enlarged faucial tonsil, no symptoms directly attributable to enlargement of the lingual tonsil exist. The symptoms in this case, a woman between 50 and 60 years of age, directly attributable to exacerbations in size, an inflammation of the so-called lingual tonsil, were a pricking at the base of the tongue and the sensation of a foreign body there.

Dr. Seifert, of Würzburg, has insisted on, and he was probably the first to do so, the fact that touching these enlarged bodies at the base of the tongue with a probe elicits a sense of tenderness and pain. This sign, in connection with the subjective symptoms referred to, as in the case just referred to, is diagnostic of a definite affection of these glands.

Dr. Quinlan has referred to this affection as being due to menstrual troubles, the inference being based on statistics which make the affection more common in women than in men. Of Seifert's 106 cases, 58 were in men and 48 in women. Taking these and Dr. Quinlan's statistics together, it would seem that the etiological importance of menstrual anomalies amounts to little if anything, and that the differences concerning the frequency of the occurrence of this malady regarding sex in the experience of various observers, is rather a matter of fortune of practice than anything else.

Dr. Meyer mentioned one symptom that occurred early, which was vomiting. He reported a case showing the importance of removing the enlarged glands which seemed to cause the trouble.

Dr. Harris called attention to the connection between enlargement of the laryngeal tonsil and certain diseases, as tuberculosis. He then reported a case showing this to be true.

Dr. Phillips called attention to the fact that lymphoid enlargement and venous enlargement were different. He believed that the treatment of venous enlargement could be thoroughly carried out. He confessed that he was skeptical as to the gravity of this trouble at the base of the tongue.

Dr. Miller showed a specimen that he had removed from a patient, which the microscopist had pronounced angioma.

Dr. Quinlan, in closing the discussion, said that this condition was certainly more often seen among females in this country.

Drs. Beverly Robinson, Simpson, Berens, Gleitsmann, and others entered into the discussion.

SOUTHERN SECTION AMERICAN LARYNGOLOGICAL, RHINOLOGICAL AND OTOLOGICAL SOCIETY.

The first meeting of the Southern Section of the American Laryngological, Rhinological and Otological Society was held at the New St. Charles Hotel, at New Orleans, March 3, 1897, Dr. W. Scheppegrell of New Orleans, president, in the chair, and Dr. Edward F. Parker of Charleston, S. C., acting secretary.

The meeting was called to order by the president, who introduced Dr. F. Formento of New Orleans, of the Reception Committee, who welcomed the visitors to New Orleans, and expressed his appreciation of the fact that the first meeting of laryngologists in the South should be held in New Orleans, and that its chairman was a member of that city.

Dr. Scheppegrell, president, then opened the scientific session by an address on "The Progress of Laryngology." This address will appear in full in the April issue of THE LARYNGOSCOPE.

The first paper read was on the

Operative Treatment of Suppurative and Non-Suppurative Middle-Ear Inflammations, by Dr. E. B. Dench of New York.

Dr. Dench stated that in the suppurative form of inflammation of the middle ear, operative treatment is instituted for two purposes—first for the relief of discharge, second for the improvement of hearing.

Dr. Dench lays particular stress upon the selection of cases suitable for operation. Where extensive destruction of bone had taken place, an operation upon the middle ear would probably be found insufficient to control the otorrhœa, and one of the graver operations, such as the Schwartze-Stacke, would probably be necessary.

After discussing the technique of the operative procedure in extenso, Dr. Dench gave the results of his operations. Of sixty-one cases operated upon for the relief of otorrhœa, 35 were cured, 17 improved, one was still under treatment, in 8 the result was unknown. In cases where there had been extensive caries, 10 were operated upon by the Schwartze-Stacke method. Of these 6 were cured and 4 improved.

Twenty-six cases of chronic purulent otitis media were operated upon for the purpose of improving the function of the ear. In 22 cases the ossicles were removed. The hearing was improved in 17 cases, and unimproved in 5. In four cases the operative procedure consisted in the division of adhesions, and the hearing was improved in every case.

In twenty cases the condition was one of otitis media purulenta residua, the suppurative process having run its course. The local condition was one of rigidity of the ossicular chain, due to the development of adhesions. In 18 of these cases synechiotomy was performed. The operation was followed by improvement in 17 cases; in one case the hearing was unimproved. In two of these cases the ossicles were removed, resulting in improvement in one case, while in the other instance the result was negative.

In the treatment of the non-suppurative variety of middle ear inflammation, great stress was laid upon the necessity of an accurate diagnosis before advising any surgical interference. In cases which seemed suitable for operation, it was advised that an exploratory tympanotomy be first performed, and the stapes liberated. The hearing was improved by this operation; the drum membrane and the two larger ossicles should then be excised to render the improvement permanent.

Both the exploratory operation and the ossiculectomy should be performed under cocaine anæsthesia, thus avoiding the discomfort and slight danger attendant upon the administration of a general anæsthetic. Great stress was also laid upon the importance of thorough surgical cleanliness in conducting the operation. Of forty-six cases operated upon in this way, 26 were greatly improved, 14 moderately improved, and 6 unimproved. Of thirteen cases operated on under ether anæsthesia, 2 were greatly improved, 5 much improved, 5 moderately improved, 1 unimproved.

The total number of cases of non-suppurative middle ear inflammation operated upon was 59, of which 52 were improved and 7 unimproved.

Dr. Dench discussed in detail the operative technique in the various classes of cases in which surgical interference was advisable.

DISCUSSION.

Dr. Stuckey of Lexington, Ky., said that he had operated on quite a number of cases in the manner described by Dr. Dench, and that his results had been exceedingly satisfactory. In several instances he had found that considerable granulation tissue developed at the upper and posterior border of the tympanic ring a few days after the operation. He would like to inquire if Dr. Dench had observed this condition in any of his cases.

Dr. Dench replied that the condition was undoubtedly due to the fact that a certain amount of carious bone had been left at the first operation. He also said that occasionally this granulation tissue developed because immediately after the operation the strip of gauze inserted for drainage was not carried into the tympanic cavity. It is especially important in these cases that the first dressing be applied with considerable care. Either a narrow strip of gauze or a thin cotton drain should be carried into the canal, as far as the tympanic cavity, and should be allowed to remain undisturbed for twenty-four hours after the operation. In this way the middle ear is thoroughly drained and upon removing the dressing the tympanic cavity would be found fairly dry, and free from any coagulated blood. If this point was neglected a firm clot might form in the deeper portion of the canal, causing a retention of the secretions, and a consequent development of granulation tissue.

Remarks Upon Tonsil Operations, with Especial Reference to Hemorrhage, by Dr. A. W. Calhoun of Atlanta, Ga.

Dr. Calhoun was prevented from attending the meeting on account of illness, and the paper was read by title.

Surgery of the Inferior and Middle Turbinated Bodies and Bones, by Dr. Robert C. Myles of New York. Read by title.

Some Amusing Instances of Nasal Reflex, by Dr. Arthur G. Hobbs of Atlanta, Ga.

After explaining the facility with which reflex disturbances in other parts of the body are set up by nasal irritation, Dr. Hobbs reported several cases in which disturbances of the generative organs were relieved by treatment directed to the nasal chambers. This paper is published in full, pp. 144-147, this issue.

Clinical Report of Interesting Cases: 1, Two Cases of Tracheotomy for Foreign Body in the Trachea; 2, Cicatricial Atresia of both Choanæ, by Dr. Augustus McShane of New Orleans.

In the first case, a child had inhaled a grain of corn, which caused great laryngeal irritation and dyspnea. A member of the same family some time before had also inhaled a grain of corn, but the family had refused operative interference, with the result that the child died one week later. The consent of the parents was, therefore, obtained without difficulty, and the foreign body was successfully removed through the tracheal opening. In the second case, the child had inhaled a peanut, which was also removed after tracheotomy. Dr. McShane also reported a case of cicatricial atresia of both chonaæ, which was evidently of specific origin. Electrolysis was used in this case, the positive electrolytic needle being passed into the stenosed choana, and the dispersing electrode being held in the hand. Only 5 milliamperes could be tolerated by the patient.

An interesting circumstance connected with this case was that, in spite of the almost entire absence of nasal respiration, the hearing of the patient appeared unaffected. (Dr. McShane's paper will be published in full in THE LARYNGOSCOPE.)

DISCUSSION.

In the discussion of Dr. McShane's paper, Dr. Dench suggested that the explanation of the unaffected hearing in the last case was due to the fact that the nasal stenosis was of a permanent character, and that the ear symptoms more frequently develop where this stenosis is of an intermittent character. The case in point was one of great rarity, in that the lesion was bilateral.

Dr. Scheppegrell stated that in regard to the fact that only 5 milliamperes were tolerated in the electrolytic treatment, this was due to the location of the active and the dispersing electrode. Where the bipolar method is used, and the needles are brought close together, a very strong current may generally be used if the parts have been properly cocainized. The farther apart the two electrodes are placed the greater is the irritation due to the passage of the current, especially when one of the poles is in the neighborhood of the brain and the large cranial nerves. Where it is impossible to insert two needles for electrolysis, the dispersing electrode should be brought as near as possible to the electrolytic needle, as, for instance, the nape of the neck, so that the waves of electric energy will not be too far distributed. Had this been done, 10 to 15 milliamperes would have been borne without much pain.

The Classification and Nomenclature of Acute Diseases of the Tonsils, by Dr. T. C. Evans of Louisville, Ky. Read by title.

The Relation of the Teeth to the Ear, Nose and Antrum, by Dr. C. F. Gambati of Houston, Tex.

Dr. Gambati explained the importance of not neglecting the teeth in the consideration of diseases in general, and especially of such proximate organs as the ear, nose and throat. While certain diseased conditions of the nose and throat may affect the development and formation of the teeth, a fact very commonly observed by physicians, the reverse is also very frequently the case; and a carious tooth or an alveolar abscess may develop symptoms which are attributed by the patient to the ear, nose or throat.

The ear especially is frequently the seat of reflex disturbances that originate from the teeth, although the nose and throat are also sometimes affected in this manner.

Dr. Gambati then related several cases in his practice in which painful and inflammatory symptoms of the ear, nose and throat were promptly relieved by the proper attention to the diseased condition of the teeth. He concluded his article by emphasizing the necessity of a careful examination into the condition of the teeth before the experienced specialist gives his diagnosis of the case which he is treating. (Dr. Gambati's paper will be published in full in THE LARYNGOSCOPE.)

Sero-Mucous Cysts of the Alæ of the Nose, by Dr. Norval H. Pierce of Chicago, Ill. Read by title.

Relation Between Nasal and Mental Diseases, by Dr. D. Ziem of Dantzig, Germany.

After referring in general to the propagation of suppurative processes in the nose and accessory cavities to the meninges and brain, and explaining this on account of the close anatomical relation, Dr. Ziem describes a case which is interesting, not only from a clinical aspect, but also that it happened to Dr. Ziem himself.

In November, 1883, Dr. Ziem had had his antrum opened for empyema, and, while this was being curetted, a fragment of the sharp spoon was broken off and remained in the cavity. This accident was followed by copious salivation, and with so much congestion in the nasal chambers that respiration through these passages became an impossibility. Sleep could be induced only by large quantities of alcohol. Fever then developed, irregular action of the heart, violent headaches, especially in the forehead, vertigo, and great prostration. A swelling appeared near the inner angle of the right eye, but disappeared spontaneously, leaving great irritability of the eye. He was confined to bed, was somnolent, and suffered from the most confused and frightful dreams, which appeared an actual reality.

Three months after the accident, the fragment of the curette was extracted, but the symptoms had now become so violent that Dr. Ziem was transported to a lunatic asylum, at Hamburg, against his own wishes and the remonstrances of his wife, the physicians believing that the patient was suffering from softening of the brain.

Dr. Ziem then gives a graphic description of his experience in the asylum, and showed how his surroundings tended to aggravate the sufferings of an irritated brain. After three months' stay in the asylum, the officials yielded to his earnest solicitations, and he was transported to a private institute at Kiel. When removed from the gruesome surroundings of the asylum, Dr. Ziem rapidly recovered, and four weeks later felt restored to his normal condition.

He suffered, however, great inconvenience, resulting from his confinement in the asylum, as there are very stringent laws in Germany as regards the practice of physicians who are supposed to have suffered from diseases of the brain. He could resume his profession in Hamburg only on condition of being under another physician's guardianship for at least one year, and declining to do this, he gave up a practice which he had just built up and recommenced his career in the city of Dantzig.

In 1895, while treating a great many purulent cases of ear, nose, and throat diseases, he again suffered from suppuration of the nose. He himself drilled into his antra, through the alveolar apophysis, and found both filled with a purulent secretion. The right side yielded readily to local and dietetic treatment, but the left side became more and more aggravated, the suppuration becoming more profuse and foul-smelling, the nasal mucosa swelling to the point of causing dyspnœa, especially at night, swelling below the eyelid, super-tension, and earache.

While examining his mouth with the mirror, he found a small black spot on the masticating surface of his only remaining molar tooth, which had been filled 22 years before by a distinguished dental surgeon at Frankfurt. He requested an experienced dentist to remove the tooth, which was refused for several days, as the dentist was fully convinced that the tooth was not associated with the purulent discharge.

The case now became aggravated, so that he was compelled to leave his practice. Somnolence again developed, difficulty of concentrating his thoughts, and many of the mental symptoms which had developed in the incipiency of his former attack. He thereupon insisted that the tooth should be extracted. The tooth was found much diseased, having a foul odor, and one of its roots being affected with periostitis and surrounded by an osteophytic excrescence. The suppuration now rapidly decreased, and not long after ceased entirely. The alarming meningitic symptoms and the signs of local inflammation disappeared under the usual treatment.

Turbinectomy: Analysis of One Hundred Cases, by Dr. J. A. Stucky of Lexington, Ky.

Dr. Stucky included in this report operations upon the *middle turbinate only*, and thought the operation had not received the attention of rhinologists that it deserves.

Resection of the anterior portion of the middle turbinate by means of the cold snare and cutting forceps was superior to the use of the galvano-cautery or chemical agents. Results were far more rapid and satisfactory, and much less reaction followed the former method. Atrophy of the remaining portion of the bone or surrounding parts does not result; on the contrary, occasional slight hypertrophy of the soft tissues is seen. The physiological function is in no way interfered with, so far as observed. In only two per cent. of the cases was the hemorrhage sufficient to require tamponing.

The paper concluded with a classified list of one hundred and twenty operations, and also suggestions as to the indications for its performance. (Dr. Stucky's paper will be published in THE LARYNGOSCOPE.)

DISCUSSION.

Dr. Dench stated that he would thank Dr. Stucky for the proper tabulation of his results of the nasal surgery of this region. As to polishing out the interior of the nose until it shines like a gun-barrel, as appears to be the impression of some operators, a great deal of this is entirely unnecessary. Pressure may set up reflex symptoms, as when the turbinate impinges upon the septum, and when this has been relieved the object of the operation has been accomplished.

Dr. Mullen of Houston, Tex., stated that he had seen some cases operated in this way with good results. The only inconvenience which he had observed was rather from hemorrhage occurring after the operation. This was controlled by packing.

Dr. Scheppegrell stated that in his reference to operations on the turbinates Dr. Stucky had not mentioned the spokeshave of Carmalt Jones. He was much pleased with this omission, as this instrument is a radical measure that should be used only in extreme cases. He had been compelled to use it in a few cases, but it should be used only after simpler methods have been tried.

Dr. Parker, of Charleston, stated that he had not had any experience with this operation, and therefore felt at liberty to question it. We find that the larger number of cases requiring operation are for stenosis, and as this is usually due to the hypertrophy of the inferior turbinate, it is difficult to understand how this can be relieved by an operation on the middle turbinate.

Dr. Stucky, in concluding the discussion, stated that in the majority of cases of stenosis the inferior turbinate is at fault, and first requires attention. The galvano-cautery is sometimes efficient, but he obtains less reaction and more satisfaction from the spokeshave. He had not referred to the spokeshave made reference to by Dr. Scheppegrell, as he had limited himself in this article to the surgery of the middle turbinate, to which this instrument is not applicable. He does not think that the spokeshave is indicated in all cases, but he has used it with gratifying results in six operations.

In regard to hemorrhage following the operation of the middle turbinal, in 120 cases, in only one or two of the cases was the hemorrhage sufficient to require a tampon. He avoids this wherever possible, as the cotton or gauze is a foreign body, and nature usually gives a better protection than we can give with the gauze.

[TO BE CONTINUED.]

BOOKS AND PAMPHLETS RECEIVED.

Twenty-eighth Biennial Report Illinois State Institution for the Education of the Deaf and Dumb, at Jacksonville, Ill, S. T. Walker, M. A., Superintendent.

Congenital Double Fistula of the Lower Lip Simulating a Supernumerary Nose. By Lewis H. Miller, A.M., M.D. Reprint, *Med. Rec.*, Vol. 49, No. 3.

Some Observations Made During the Treatment of Chronic Catarrhal Deafness. By Thomas H. Shastid, A.B., M.D. Reprint, *Jour. Am. Med. Ass'n.*, Sept., 1896.

A New Myringotome. By Thos. H. Shastid, A.B., M.D. Reprint, *Archives of Otology*, Vol. xxiv, No. 3.

Speech Defects: Their Causes and Treatment. B. G. Hudson Makuen. Reprint, *Therapeutic Gazette.*

American Medical Journalist.—This spicy, wide-awake, new and interesting aspirant for literary honors, has just made its appearance. The platform of the journal seems to be—the medical press in all its departments and in all its relations. It desires to cater to the interests of editors, publishers, managers and advertisers, and promises to be a welcome addition to medical journalism. The long experience in medical journalism of Editor Charles Wood Fassett, who is at the helm of this new venture, is a guarantee of success, and we wish the *American Medical Journalist* a happy career.

Third Annual Announcement of the Illinois Medical College; Chicago Summer School of Medicine, session of 1897.

Injuries and Diseases of the Ear. By Macleod Yearsley, F.R.C.S. [London: The Rebman Pub. Co., 11 Adam St., Strand.

Diseases of the Upper Respiratory Tract. By P. Watson Williams, M.D., London. Illustrated. 8vo., pp. 282. [Bristol, England: John Wright & Co.; New York: E. B. Treat. Price, $2.75.

Can Tuberculosis be Diagnosed from the Blood? By C. W. Fisch, M.D., St. Louis. Reprint, *St. Louis Med. Review.*

NEW INSTRUMENTS.

Heating Apparatus for Spray Solutions.

An apparatus for keeping spraying solutions, as used in atomizers, constantly warm has been suggested by Dr. Frank C. Todd of Minneapolis (*N. Y. Med. Jour.*, Dec. 5, 1896).

The author emphasizes the value of using sprays in the nose and throat warm, and he uses a container which accommodates from six to twelve spray bottles.

The apparatus consists of a metal bucket, fitted with a perforated cover; each perforation is of diameter to receive a spray bottle; fastened to the rims of these holes are hollow metal cylinders, closed at the bottom. When in use, the pail is filled with water and heated by a small gas stove or Bunsen lamp; and the spray bottles are placed in the hollow cylinder; the solutions are thus always warm when needed.

The author also emphasizes the value of using all solutions sprayed in the nasal and laryngeal areas thoroughly warmed, especially in chronic affections of these organs.

Laryngological Society of London.

The following is the list of officers and council for 1897:

President, H. Trentham Butlin, F.R.C.S.

Vice-Presidents, E. Cresswell Baber, M.D., J. W. Bond, M.D., A. Brommer, M.D., Scanes Spicer, M.D., Chartens Symonds, F.R.C.S.

Treasurer, W. J. Walsham, F.R.C.S.

Librarian, J. Dundas Grant, M.D.

Secretaries, St. Clair Thomson, M.D., H. Tilley, M.D.

Council, J. B. Ball, M.D., R. McKenzie Johnston, M.D., F. Semon, M.D., W. R. H. Stewart, F.R.C.S., P. Watson Williams, M.D.

Second Annual Meeting of the Western Ophthalmological, Otological, Laryngological and Rhinological Association,

At St. Louis, Mo., April 8th and 9th, 1897. Place of meeting, Planters Hotel,

President, Adolf Alt; Vice-Presidents, B. E. Fryer, J. H. Martindale; Treasurer, W. L. Dayton; Secretary, Hal Foster.

Address of Welcome by Dr. W. J. Langan, President St. Louis Medical Society.

Response by Dr. A. C. Corr, President Illinois State Medical Society.

President's Address: "Hæmorrhagic Glaucoma."—Dr. Adolf Alt, St. Louis, Mo.

The railroads have promised one and one-third fare. When buying tickets ask for a certificate; on reaching St. Louis have it signed by Dr. Alt.

PRESENTATION OF PAPERS.

1. "Report of Six Cases of Removal of Ossicles."—Dr. Norval H. Pierce, Chicago, Ill.
2. "A Pyramidal and Senile Cataract in One Subject. Report of a Case."—Dr. Geo. F. Suker, [Toledo, O.
3. "A Case of Oculo Motor Paralysis."—Dr. Geo. E. Bellows, Kansas City, Mo.
4. "Adenoid Vegetations."—Dr. Ellet Orrin Sisson, Keokuk, Ia.
5. "Some Observations Upon the Irritating Effects of Natural Gas Upon Trachoma."—Dr. John Johnson Kyle, Marion, Ind.

6. "Treatment of Chronic Suppuration of the Middle Ear."—Dr. S. S. Bishop, Chicago, Ill.
7. "Astigmatism."—Dr. Dudley S. Reynolds, Louisville, Ky.
8. "Diseases of the Glosso Epiglottic Space."—Dr. J. F. Barnhill, Indianapolis, Ind.
9. "The Classification of the Exudative Anginæ."—Dr. E. B. La Fevre, Abilene, Kans.
10. "Skin Grafting for Malignancy of the Orbit and Entropion."—Dr. Flavel B. Tiffany,
    Kansas City, Mo.
11. "Restoration of the Eye Lids by Skin Grafting."—Dr. W. C. Tyree, Kansas City, Mo.
12. "An Improved Skiascope."—Dr. J. Ellis Jennings, St. Louis, Mo.
13. "Scopolamine as a Mydriatic and Cycloplegic."—Dr. Wm. S. Fowler, Chicago, Ill.
14. "Optic Neuritis."—Dr. F. C. Evans, Louisville, Ky.
15. "Report of a Case of Congenital Membraneous Cataract with Aphakia."—Dr. A. S.
    Magee, Topeka, Kans. [Bulson, Ft. Wayne, Ind.
16. "Moderate Errors of Refraction; Shall We Always Correct Them?"—Dr. Albert E.
17. "Conservatism in Rhinological Practice."—Dr. B. M. Berens, Minneapolis, Minn.
18. "Mental Depression and Prolonged Melancholia Following Graduated Tenotomy and
    the Limitation of Prisms."—Dr. W. H. Baker, Lynchburgh, Va. [Indianapolis, Ind.
19. "Report of a Case of Double Mastoid Disease, Operations, Recovery."—Dr. J. O. Stillson,
20. "The Technique of Cataract Extraction."—Dr. B. E. Fryer, Kansas City, Mo.
21. "Diseases of the Labyrinth."—Dr. J. Holinger, Chicago, Ill.
22. "Keratoconus."—Dr. J. W. Bullard, Pawnee City, Neb. [Houston, Tex.
23. "A Case of Inflammatory Glaucoma of Reflex Nasal Origin."—Dr. J. Aloysius Mullen,
24. "Syphilitic Amblyopia."—Dr. Robert F. Lemond, Denver, Colo.
25. "Congenital Nystagmus."—Dr. J. Elliot Colburn, Chicago, Ill.
26. "Objective Noises in the Ear."—Dr. G. Sterling Ryerson, Toronto, Can. [Louis, Mo.
27. "Function of the Stapedius and Tensor Tympani Muscles."—Dr. Thos. F. Rumbold, St.
28. "Saline Injections in the Treatment of Cyclitis and Iritis."—Dr. S. L. Ledbetter, Birm-
29. Paper.—Dr. W. E. Gamble, Chicago. Ill. [ingham, Ala.
30. "College Instruction in Ophthalmology."—Dr. A. M. Lapsley, Keokuk, Ia.
31. "The Value of Hypnotic Suggestion in Ophthalmic Practice."—Dr. Ignatz Mayer,
    Guthrie, O. Ty. [Dr. J. H. McCassy. Dayton, O.
32. "Description of Dr. McCassy's Trial Frame, Lachrymal Style and Threaded Handle."—
33. "The Lens Tester, and Why Used."—Dr. J. H. Johnson, Kansas City, Mo.
34. "The Ætiology, Treatment and Prognosis in Exopthalmic Goitre."—Dr. J. Fred Clark,
    Fairfield. Ia. [O. McReynolds, Dallas, Texas,
35. "Extraction of Bilateral Soft Cataract in the Case of a Child Three Years old."—Dr. J.

FRIDAY, APRIL 9th.—Election of Members. Election of Officers.

PAPERS.

1. "Two Cases of Asthma, Due to Intra Nasal Growths."—Dr. W. W. Bulette, Pueblo, Colo.
2. "Aural Pain."—Dr. A. M. Howe, Wichita, Kans. [Thomas, Chicago, Ill.
3. "Influence of Vaporized Medicaments on the Respiratory Passages,"—Dr. Homar M.
4. "Hysteria in Ophthalmology."—Dr. W. L. Dayton, Lincoln, Neb.
5. "Otitis Media Circumspecta."—Dr. C M. Holcomb, Winfield, Kansas.
6. "Ulcers of the Cornea."—Dr. H. Z. Gill, Pittsburgh, Kansas.
7. Paper.—Dr. J. D. C. Hoit, Elmwood. Ill.
8. Paper.—Dr. Frank Allport, Minneapolis, Minn.
9. "Hypertrophic Rhinitis."—Dr. W. T. Grove, Eureka, Kans.
10. "The Relative Value of Enucleation and Evisceration."—Dr. A. R. Amos, Des Moines. Ia.
11. Paper.—Dr. C. W. Kollock, Charleston, S. C.
12. "A Plea for More Mild Treatment of the Conjunctiva."—Dr. E. W. Ames, Canton, Ill.
13. Paper.—Dr. Geo. Knapp, Vincennes, Ind.
14. "Thrombosis of the Lateral Sinus."—Dr. B. F. Church, Dallas, Tex.
15. "Notes on Nasal Surgery."—Dr. A. E. Prince, Springfield, Ill.
16. Paper.—Dr, K. K. Wheelock, Fort Wayne, Ind,
17. "Chronic Rhinitis as a Factor in Weakened Vision."—Dr. Joseph A. Daniel, Davenport, Ia.
18, Paper.—Dr. Chas. H. Beard, Chicago, Ill. [C. H. Pleasants, Helena, Mont.
19. "Treatment of Corneal Lesions by Hydraulic Curetting with Sublimate Solutions."—Dr.
20. Paper and Demonstrations: "Advanced Methods in Teaching the Deaf."—Dr. M. A.
    Goldstein, St. Louis, Mo, Discussion opened by Prof. S. T . Walker. Jacksonville, Ill.
21. "Three Cases of Suppuration of the Frontal Sinuses Treated by Means of the Air
    Douche."—Dr. E. F. Gildea, Colorado Springs, Colo,
22. "Toleration of the Eye to Severe Injuries."—Dr.. H G. Sherman, Cleveland, O.
23. "A Case of Mastoiditis Complicating Purulent Otitis Media Cured by Enlarging the
    Drum Perforation and Syringing the Tympanic Cavity."—Dr. Wm. Scheppegrell, New
    Orleans, La. [Dr. H. Moulton, Ft. Smith, Ark.
24. "The Relationship of Obscure Throat Symptoms in Adults to the Pharyngeal Tonsil."—
25. "Suppurative Inflammation of the Frontal Sinuses."—Dr. Frank E. Sampson, Creston, Ia.
26. "Experiments on the Eustachian Tubes by Means of the Tongue Thrust Into the Naso-
    Pharynx."—Dr. Hamilton Stillson, Seattle, Wash.
27. "Atrophic Rhinitis."—Dr. I. Cullen, Cincinnati, O.
28. "Artificial Membrana Tympani."—Dr. E. W. Heltman, Toledo, O.
29. "Otitis Media."—E. M. Singleton, Marshalltown, Ia.
30. Paper.—Dr. F. E. Waxham, Denver, Colo.
31. "Throat Manifestation of Transmitted Syphilis."—Dr. H. W. Whitaker, Columbus, O.
32, "Relative Value of the Various Treatments for Deafness Due to Otitis Media."—Dr. J. F.
33. "Eustachian Catarrh."—Dr. M. Jay Brown, Salina, Kans. [Oaks, Chicago, Ill.
34. "Nitrate of Silver."—Dr. Chas. E. Walker, Denver, Colo.
35. Paper.—Dr. J. H. Martindale, Minneapolis, Minn.
36. Paper.—Dr. F. C. Heath, Indianapolis, Ind.
37, Paper.—Dr. Francis B. Kellogg, Tacoma, Wash.
38. Paper.—Dr. Allen T. Haight, Chicago, Ill.
39. "Lymphadenoma, with Report of Cases."—Dr. C. W. Parker, St. Louis, Mo.
40. Paper.—Dr. D. Emmett Welsh, Grand Rapids, Mich.

A cordial invitation is extended to the profession.

THE

LARYNGOSCOPE.

VOL. II. ST. LOUIS, MO., APRIL, 1897. No. 4.

ORIGINAL COMMUNICATIONS.

EXOSTOSIS OF THE SEPTUM AS A CAUSE OF CHRONIC NASO-PHARYNGITIS.*

BY CHARLES H. KNIGHT, M.D., NEW YORK.

One of the most obstinate and annoying disorders met with in the upper air tract is chronic naso-pharyngitis. Its prominent subjective symptoms are a sensation as of a foreign body above the soft palate and a frequent desire to clear the throat by the act of "hawking." The subjects of this condition are prone to attacks of acute naso-pharyngitis, which may be very rebellious to treatment. They often form a peculiar habit of forcibly expelling short blasts of air through the nostrils in an instinctive effort to get rid of an obstruction. This little trick, repeated at intervals of a few minutes, becomes a source of great annoyance to the patient's associates. In an ordinary "cold in the head," which everyone has at times and almost everybody neglects as being a trivial affair, the naso-pharynx usually becomes involved earlier or later. As a matter of clinical experience, we find that attacks of acute naso-pharyngitis are exacerbations of a chronic condition, and are encouraged by the existence of some nasal abnormality, such as a septal deflection, or an hypertrophy of the posterior end of the inferior turbinated body. The relation of naso-pharyngitis to lymphoid hypertrophy in the vault of the pharynx, to inflammation of the pharyngeal bursa, and to suppuration in the accessory sinuses, is by no means infrequent, and many cases, on careful examination, will prove to have their source in one or the other of these pathological conditions.

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*Read before the Section in Laryngology of the New York Academy of Medicine, Decembar 23, 1896.

What is believed to be a very common etiological factor in post-nasal disorders, and one easily overlooked in the usual rhinoscopic examination, is *exostosis of the septum.* It has been my frequent experience to meet with cases of obstinate "post-nasal catarrh," so-called, associated with a tendency to "catch cold," which yielded only after the removal of a conical projection from the bony septum, so situated as to interfere with breathing or drainage. Such a projection may assume the form of an irregular ridge running forward more or less parallel with the floor of the nose, and impinging upon or even adhering to the inferior or middle turbinated body. Under such circumstances, it can hardly escape detection. It may be concealed by an anterior turbinated hypertrophy, or a deviation of the septum, and may be discovered only by the use of cocaine and the probe. No rhinoscopic examination is complete without recourse to these aids to diagnosis.

It is uncertain whether these exostoses of the septum originate in traumatism or result from hypernutrition. They are seldom, if ever, met with in early life, which hardly would be the case if the former were the sole cause. Moreover, they are found far back upon the vomer in a situation supposed to be especially protected from injury. Behind such an obstruction there always exists a more or less extensive area of hyperemia owing to rarefaction of the air during inspiration. This region is, therefore, more susceptible to the influences which are usually recognized as conducive to an acute naso-pharyngitis. The disturbances due to diminution in air pressure are perhaps less serious than those dependent upon impeded nasal drainage. In other words, a very considerable bony obstruction may exist without marked derangement of the nasal respiratory function. Either its growth is so slow that the patient becomes habituated to it, or else the opposite nostril is so ample as to compensate for the stenosis, or possibly it may be quite above the level of the air current. Such a projecting shoulder offers a site for the lodgment and retention of secretion, which in process of decomposition becomes an additional source of irritation. The indications are therefore clear in every case of chronic naso-pharyngitis—in the first place, to supplement simple inspection of the nasal chambers by exploration with the probe after thorough cocainization, and, secondly, to remove all overgrowths from the septal surface which seem to obstruct respiration or drainage. The latter statement may seem somewhat radical, but I believe it may be accepted even by those conservatives who deprecate the unwarrantable activity in nasal surgery which has prevailed in recent years.

Whatever good may be accomplished in certain cases of catarrhal disease by the list of astringents and various local applications usually recommended, they will fail to give permanent relief when the mechanical obstruction referred to exists as an etiological factor. In every case of intractable and recurrent naso-pharyngitis, it should be sought for, and, if present, removed.

I hope that my position on the question of intranasal surgery may not be misunderstood. It is very far from my intention to urge the removal of every septal irregularity. On the contrary, I believe it is high time that we should learn to have more respect for the intranasal structures. No one condemns more heartily than myself the wholesale slaughter of turbinates which may seem to be simply a little larger than our æsthetic taste demands. But, on the other hand, there can be no good reason in attempts at preserving a membrane which has undergone polypoid degeneration, or in a state of such advanced hyperplasia that its function is wholly abrogated. The late Dr. Henry Schweig, of this city, many years ago advocated the plan of "submucous cauterization" of the hypertrophied turbinates, and for the purpose used a sharp-pointed cautery electrode. The idea has been lately revived by Blondian*, and in another form by Dr. Norval H. Pierce†, of Chicago. Efforts in this line are certainly most commendable, provided they be limited to tissues which are still useful. There certainly can be no sense in trying to save those which are practically foreign bodies. The advice is sometimes given to trim down the turbinated bodies rather than meddle with a deformed septum in cases of nasal stenosis, the impression being that the septum is particularly resentful of surgical interference. In cases of the class referred to in my paper, I believe there should be no hesitation in choosing to attack the septum. In my experience these wounds do well. Examined months and years after operation, no trace of the original trouble can be seen except perhaps a slight bulging of the septal surface. Hemorrhage at the time of operation, or after the cocaine effects have passed away, is often quite free, but only on two or three occasions have I found it necessary to plug the nostril. Under the use of a fresh, strong solution of cocaine the removal of an exostosis may be accomplished absolutely without pain, unless the patient is

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*The *Jour. Laryngology*, etc., Dec. 1886, p. 333.

†The *N. Y. Med. Jour.*, 1896, No. 938.

the unfortunate victim of an idiosyncrasy which resists the anesthetic effects of the drug. Some of our patients seem to enjoy the distinction associated with a surgical operation, while others dread the knife and will submit to months of treatment with sprays and medication rather than take the chance of pain. It is a satisfaction to be able to assure such individuals that no great amount of pain need be apprehended either during the operation or afterwards. The increase in comfort as regards nasal breathing, and the relief from symptoms following the removal of one of these septal deformities, are generally admitted to be full compensation.

In conclusion, let me say a few words regarding the method of removing an exostosis. When its projection from the surface of the septum is abrupt, there is but little difficulty in operating with a hand saw. And in most cases a saw, preferably one of the pattern known as Bosworth's, is a convenient instrument. If the base of the bony spur is shelving, the saw should be started in an oblique position, its teeth being directed towards the septal surface. When once it has made a furrow through the soft parts, it may be brought to a vertical line without danger of slipping. In order to obviate stripping up the mucous membrane at the completion of the section, it is a good plan to make a preliminary cut from below upwards, the main division of the bone being made from above downwards. The various electric saws, devised or modified by Roe, Schmidt, Potter, Black, and others, are very ingenious, and are thought to have the advantage of doing the work more quickly. In exostosis of unusual width, it will be found easier to tunnel through with the electric nasal trephine, and afterwards trim off the projections left by the trephine with cutting forceps or the saw. Exostoses of moderate extent, which have not become densely ossified, may be removed with the spokeshave, suggested by Woakes; but I am almost prepared to say that a septal excresence which this instrument is capable of removing, does not require interference. Bony outgrowths often offer too great resistance; soft hyperplasiæ are better reduced by means of the electric cautery.

Nothing has been said about the relation of septal exostosis to reflex neuroses, or to various aural disturbances—not because it is by any means infrequent or unimportant; but because this phase of the subject opens too wide a field for discussion at the present time.

To most of you I fear that the contents of my paper may seem extremely elementary. But I cannot help feeling that in our search for strange and unusual morbid phenomena, we are apt to forget first principles. An occasional review of the field and a comparison of experiences may be of value to all of us.

TURBINECTOMY OR RESECTION OF THE MIDDLE TURBINATE; REPORT OF ONE HUNDRED AND TWENTY OPERATIONS.*

BY J. A. STUCKY, M.D.

Member of Ky. State Med. Society; Lexington and Fayette County Med. Society; Central Ky. Med. Society; Ex-President American Rhinological Society; Member of American Medical Association; Fellow of American Laryngological, Rhinological and Otological Society, Etc., Etc.

By the term turbinectomy, I mean the removal by surgical means of a portion of the turbinate bone and not the whole of it. In this report I refer to operations upon the anterior portion of the middle turbinate, and do not include operations upon the inferior bone.

Removal of a part or the whole of the inferior turbinate is now of frequent occurrence for the relief of some forms of nasal stenosis, having been greatly popularized by the published reports of Carmal Jones and others of London.

Removal of the anterior portion of the middle turbinate, if one may judge from reports published in our leading journals, it seems to me, has not received the attention of the rhinologists that it deserves. My first turbinectomy of the middle bone was performed in 1889, and it was with some timidity I removed the hypertrophied process, and with no little interest and anxiety I watched the result. This was so marked in that my patient was speedily relieved with very little discomfort, and these results continued to follow almost every operation (where indicated), that it is now a favorite method of treatment with me, and is so far superior to the use of chemical or electrical applications that I rarely now consider them, but infinitely prefer the removal of the offending portion by use of the cold snare and cutting forceps.

The middle meatus being by far the most important division of the nasal cavity, from a physiological and surgical view, because of its containing the hiatus semi-lunaris, openings of the frontal sinus, the anterior ethmoidal cells, and the orifice of the maxillary sinus, we can readily see how any interference with natural drainage, whether by enlarged turbinate, polypi or deviations or the septum nasi, will produce not only disagreeable but serious trouble by mechanical retention of the normal secretions, and as a result lead to purulent inflammation.

The operation is, as a rule, easily and rapidly done; the parts being thoroughly anesthetized by applications made on pledgets of cotton to the parts, of a ten per cent. each of cocaine and resorcin in aqueous solution. The addition of the resorcin to the cocaine I think quite a valuable one, in that it increases the anesthetic effect of the cocaine and prevents any unpleasant or toxic or after effects of the drug.

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*Read before the Southern Section of the American Laryngological, Rhinological and Otological Society, New Orleans, March 3, 1896.

The loop of the cold snare is easily slipped over the process of the turbinate, and with a Wright's snare rapidly cut off. I prefer this instrument because of its strength, ease of manipulation, and the rapidity with which the loop can be drawn into the canula, even when cutting through dense structures. It is also so constructed that the hand of the operator in no way interferes with the illumation of the parts operated on.

Occasionally when the bone is very hard it is necessary to make a retaining point for the wire loop; this I do with the nasal scissors or cutting forceps, as devised by Robert Myles, of New York. If the snare fails to grasp and remove enough of the turbinate to entirely relieve pressure and restore drainage, the cutting forceps are used. Usually the snare, scissors, and cutting forceps are all the instruments needed to perform this operation. In the large majority of cases the snare alone was sufficient.

If the ethmoid cells are diseased, filled with pus or polypoid granulations, the sharp curettes and cutting forceps are needed in addition to the instruments mentioned.

The hemorrhage is quite free for a few moments, but the application of a gauze tampon to control the bleeding was found necessary in less than two per cent. of my cases.

The patient generally complains of pain in the forehead, and just beneath the eye, after the operation. I have found that a ten or fifteen grain dose of soda salicyate relieves this more promptly and effectually than anything else. Rest for a few hours in the recumbent position I think always advisable, though many of the cases operated upon walked to their homes or places of business immediately after the operation of simple turbinectomy, without any special discomfort.

Whenever any of the accessory cavities of the nose were operated upon at the time of removing the turbinate process, absolute rest in bed for twelve or twenty-four hours is strictly enjoined.

In every case I caution the patient not to blow the side of the nose operated upon for twelve hours. At the end of this time the clot is removed, and the anterior and posterior nares thoroughly washed by means of the spray with warm alkaline antiseptic solution. The after treatment consists in the daily use of the same solution, with the hand atomizer, two or three times a day, by the patient.

We would naturally suspect that atrophy of the remaining portion of the turbinate would be the result of the operation, but observation does not prove this; on the contrary, a slight hypertrophy of the tissues covering the tip of the bone is sometimes observed. In nine cases this was of sufficient size to necessitate its reduction, which was done by touching it lightly with chromic acid crystals. One application only was necessary to reduce it to proper size.

My experience agrees with that given by Drs. William Hill and Dundas Grant, that "there is a certain amount of regeneration of tissue in from six to ten weeks after the removal of the turbinate process." I have been able to see the patients operated upon at short intervals for months, and in some cases several years after the operation, and so far as observed the physiological function has been in no way interfered with.

The number of males in the report presented is 49; females 71. The oldest patient operated upon was 73 years of age; the youngest 12. The average ages of the largest number operated upon was between 25 and 40 years. In sixty-two per cent. of the cases the turbinate was so enlarged as to press tightly against the nasal septum and nearly completely occlude the middle meatus by contact with the inferior turbinate.

The following is a classfied list of one hundred and twenty resections of the middle turbinate, which I present to you without further comment, hoping that the points of interest overlooked in this brief report will be brought out fully in the free discussion which I trust will follow:

1. Stenosis, due to hypertrophy and hyperostosis of the middle turbinate; 35 cases.
2. Polypoid degeneration and enlargement of the middle turbinate; 48 cases.
3. Cyst of the anterior process; 3 cases.
4. Acute frontal sinusitis; 7 cases.
5. Ethmoiditis (suppurative); 11 cases.
6. Empyema of the maxillary sinus; 16 cases.

The classes of cases in which most marked and rapid relief was given were 1, 4, 5. Especially was the relief marked in class 4, where, after removing the anterior process, drainage of the sinus was restored through the infundibulum.

In classes 2, 3 and 6, the results were not so rapid and marked, but in the main were very satisfactory.

In conclusion I would suggest that the operation of turbinectomy is indicated whenever the bone presses against the nasal septum, or encroaches upon the inferior bone enough to close the middle meatus or in any way produce obstruction to the natural openings of the accessory cavities.

Lexington, Ky.

DEVIATION OF THE CARTILAGINOUS NASAL SEPTUM. WHAT MEANS OF SUPPORT AFTER INCISION?

BY E. W. HELTMAN, M.D.

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The attempts at cure of this distressing condition have not always been of the most gratifying nature. The tendency to recur and the discomfort caused the patient by the various means of support after incision, have made this class of patients not very desirable.

Diagnosis of deviation is easily made; readily distinguished from an enchondrosis by the presence of a concavity on the opposite side. It is quite common; occurring nearly as often in the female as in the male. The symptoms are the deformities and those resulting from the stenosis.

When a case presents for operation, the question naturally arises—what means of support shall be used to get the best result and cause the least annoyance to the patient? I have used oakum, the ivory plug, cork splint, Mayer's vulcanite tube, etc., etc. During the past eighteen months I have used the vulcanite tube entirely, and with much satisfaction. Its shape is well adapted to the nostril—made in various sizes—easily introduced and removed. Being hollow, it is more cleanly, and allows patient to breathe through the nostril, thus removing that feeling of discomfort of a plugged nostril. When the incision has thoroughly healed, we may allow our patient to remove, clean, and replace the plug. To the out-of-town patient this is quite an item, as it does not require a daily visit to the office. I have used the tube a number of times, and, though nine to twelve months is a short time to judge results, comparison with results of same period of time with other means of support is favorable to the tube.

I wish to report a single case: Frank U. was referred to me by Dr. Walker. The case was one of considerable interest, as, in addition to the deviation, the septum protruded from the nostril fully one-fourth of an inch. The young man sought relief more on account of the uncomfortable and unsightly protrusion than the discomforts of the deviation. He was a mouth breather, and had considerable discharge from the naso-pharynx.

Right nostril almost occluded about a half an inch from external opening; septum protruding from same side, the end of which was covered with a scab. It was tender and irritable, and would bleed if scab was accidentally removed. Nose was broken from being hit with a ball bat five years before; says he did not notice protrusion of septum for two years afterward. March 1st, 1896, assisted by Dr. Walker, I operated on the patient; chloroform anæsthesia. Nose was cleansed, and a stellate incision was made in septum on convex side, avoiding as much as possible the cutting of the mucous membrane on the opposite side. The finger was introduced, and septum straightened as much as possible. The nostril was then cleansed with Dobell's solution, and an incision made through mucous membrane covering the protruding portion. Membrane dissected back, and a sufficient amount of cartilage removed, wound cleansed, and membrane stitched. The long nasal forceps were now introduced and septum thoroughly straightened. Nostrils again washed out, and a sterilized vulcanite tube introduced on convex side. In this case I used the tube on one side only, as the mucous membrane on concave side was not cut. After second day, tube was removed daily, cleansed, nose sprayed, and tube returned. After a week patient was allowed to remove the tube daily, cleansing and returning it. After first week, saw patient twice a week for four weeks, when he was dismissed. Patient was seen eight months after operation. Nostril large, aud breathing perfectly. No deformity. Result very satisfactory. A number of others operated upon since, give promise of equally pleasant results.

HAY FEVER.*

BY W. F. STRANGWAYS, FLINT, MICH.

The author read a paper, over a year previous, entitled "Hay Fever, a Successful Treatment Founded on a New Theory,"† which attracted considerable attention. In this former paper it was claimed that while pollen, as a rule, played a part in this disease, it did not irritate the mucous membrane nor produce a naso-motor paresis by its direct influence; that the amount of pollen in the air was too small to act as an irritant. That in all probability a protoplasmic substance, found in pollen and elsewhere in the vegetable kingdom, acted as a ferment, causing the formatiom of a toxine which was the real exciting cause. The theory was advanced that the toxine or toxines could not be developed in acid solutions. The exhibition of a wash of

Acetic acid	m ij.
Resorcin	grs. iss.
Sodium Chloride	grs. iv.
Aqua dest	℥j.

gave complete relief in many cases, and the administration of large doses of muriatic acid, well diluted, increased the body's resistive forces, and inhibited the generation of the toxine.

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*Read before the Forty-fifth Annual Meeting of the North-Eastern District Medical Society of Michigan. Original abstract.

†*Annals of Ophthalmology and Otology*, Vol. V., No. 1, and THE LARYNGOSCOPE, Oct., 1896.

If this theory is correct, it partially explains why only a percentage of those having obstructive pathological conditions are hay fever subjects, and why the introduction of large quantities of obnoxious pollens into the nares of the others affects them no more than any of the ordinary dusts.

The author found most hay fever subjects tolerated very large doses of acid, if well diluted. He has given as high as one drachm of the C. P. acid, well diluted, during each 24 hours. If this remedy is used for two or three months prior to the expected attack, smaller doses will answer.

Nature works every moment, while local applications exert only a temporary influence; yet, often, this temporary assistance turns the tide in our favor. The best results can only be attained when good drainage and proper circulation is obtained.

Since writing the first paper the author spent considerable time investigating the "impact theory," and concludes that the amount of pollen in the air is far too small to have any injurious mechanical, medicinal or poisonous influence. His investigations showed one rag weed plant for every thousand square feet surface, and from inquiry he learns that an elevation of several hundred feet above the earth's surface does not give relief. Probably rag weed pollen floats to 1,000 feet elevation, but if the limit is placed at 500 feet it would give, for every plant, 500,000 cubic feet of air, not for one day only, but for six weeks at least. If the whole plant were pollen there would be a dilution of one part pollen to fifteen or twenty billion parts air. The rag weed was taken as an example, as the rose and golden rod pollen is much smaller in quantity.

Early in September a known volume of air was forced against a plate of glass besmeared with glycerine and then through a double filter of absorbent cotton. On the plate a few grains of pollen were found; in the cotton, none. These experiments demonstrated to the author that the amount of pollen in the air is so small that it is a physical impossibility for it to exert any direct immediate noxious influence.

Estimating the volume of tidal air at 25 cubic inches, his experiments showed an inhalation of not more than one grain of pollen for every thirty respirations.

The author reiterates that if his estimates are approximately correct, it demonstrates that it is the toxine or toxines generated from substances in the nasal chambers that is the cause of hay fever, and that our efforts to prevent or cure this affliction should be directed against the formation of the toxine or toxines.

The doctor condemns the use of morphine for the relief of this trouble.

THE PROGRESS OF LARYNGOLOGY.*

BY W. SCHEPPEGRELL, A.M., M.D.,

Vice-President of the American Laryngological, Rhinological and Otological Society,
New Orleans, La.

It is with much pleasure that I welcome you to this, the first meeting of nose, throat, and ear specialists in the South. Although the branch of medicine, whose consideration is the object of this Society, is still comparatively young—in fact, the first man, Garcia, who examined the larynx with the mirror being still among the living—it has made such rapid strides that it now holds a prominent position among the older branches of medicine. Although scarce twenty years have passed since the treatment of such important diseases as those of the nose, throat, and ear was relegated to quacks and charlatans, still this subject has been taken hold of by earnest men—men striving hard to arrive at truth, and seeking the advancement of this subject—so that at present there are many workers in this field in all portions of the civilized globe.

Although the nose has such an important function in preparing for respiration the air—the *sine qua non* of human existence—it is comparatively recent that its physiological functions were well understood. We can all remember the time when a student would pass his course at a medical college without ever having seen the interior of the nostrils or inspected the larynx or the ear, and this subject is even now a *terra incognita* to a large majority of practitioners of the present day. This is largely attributable to the fact that the medical colleges have heretofore given so little attention to this subject. But a few years ago, the number of colleges in whose curriculum the subject of diseases of the nose, throat, and ear was considered was comparatively few; and where instructions were given on this subject, it was usually done in such a manner as to indicate that it was of secondary importance to other branches of medicine.

This state of affairs, however, has undergone a change, and the majority of prominent colleges now not only give earnest attention to the consideration of diseases of the nose, throat, and ear, but have established chairs for special instruction in these diseases; and the time is not far distant when the college which does not give proper attention to this branch of medicine must be relegated to those whose methods and advantages have fallen behind the modern standard.

In order to obtain the benefits of the co-operative study of this subject, societies for its advancement have been established in England, in Germany, in France, and in America, and the majority of advanced nations have now their societies representative of this branch of medicine. The discussion of the many subjects of interest in our specialty cannot but tend to advance our knowledge of this subject, and the comparison of our individual experiences and the analysis of the results obtained will continuously advance our knowledge, and we shall be the better prepared to relieve the sufferings of our patients.

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*President's Address at the meeting of the Southern Section of the Am. L., R. & O. Society, at New Orleans, March 3, 1897.

During the past year, two important additions have been made to the methods of our specialty, viz.: the *X-rays* of Roentgen, and the *direct laryngoscope* or *autoscope* of Kirstein. In spite of the very conservative statements of the discoverer of the X-rays, the sanguine enthusiasm of the masses has over-rated the value of their application in medicine and surgery, and it is only natural that the return swing of the pendulum should create a certain amount of discouragement; but a careful analysis of the work that has been accomplished, and the scientific investigations that are still being made, give us reason to hope that the X-rays will not only be of marked benefit to surgery generally, but also in our particular specialty. Foreign bodies in the œsophagus have been easily and accurately located by this method. We had hoped that the X-rays would throw new light on the diagnosis of the disease of the accessory sinuses; but thus far, however, the results obtained in this direction have not been very encouraging, this being due principally to the fact that pathological conditions of these sinuses are usually limited to the soft tissues, which are transparent to the X-rays, and that they are surrounded by an osseous wall which offers a much higher resistance to the passage of the rays. It is to be hoped, however, that this method, when more perfected, will materially assist us in making a rapid and unequivocal diagnosis of these cases.

The subject of direct laryngoscopy is also of great interest; and while, unfortunately, it cannot be applied to the examination of all cases, in fact, not even to a large proportion of them, still it is certain that where it can be applied it offers the greatest advantage, and it is certainly a valuable addition to our methods. It is of special importance in the application of surgery to the larynx; and in a method of treatment of laryngeal tuberculosis, which I shall have the privilege of bringing to your attention at this meeting, it has been of the greatest service in facilitating the treatment in those cases in which it could be applied.

In concluding these remarks, I would express my sincere appreciation to the Reception Committees, who have spared no efforts to contribute to the enjoyment of our visiting members. I would also express to the members of the society my sincere thanks for their hearty co-operation in organizing this meeting. I sincerely trust that this will be the first of a long series of such meetings, which will be held in the South, which will tend not only to the advancement of our knowledge, but also to increasing the friendly relations of its members.

TUBERCULOSIS WITH SYPHILIS OF THE LARYNX.

BY E. HARRISON GRIFFIN, M.D.

Lecturer on Diseases of the Throat and Nose, Bellevue Hospital Medical College; Attending
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Department, New York.

When there is a doubt of the correct diagnosis of a case, such as cancer, tuberculosis, and other kindred affections, the microscope is called into play, a section examined, and the diagnosis made certain.

The microscope is a great aid to a diagnosis; but it is often misleading, when we have to deal with a mixed sore of the larynx, such as a tubercular ulcer and a syphilitic ulcer side by side, which case is liable to occur quite frequently.

The diagnosis is given of a tubercular sore, and the presence of a syphilitic infection passed over and undiagnosed, and treated only as a tubercular ulcer.

It is in these cases that the well-trained eye is called into play to diagnose the affection.

Syphilis of the larynx is again and again mistaken for tuberculosis, and the diagnosis seemingly confirmed by the microscope, because the patient has some tubercular disease of the lung, and the sputum examination gives this alone.

Syphilis grafted upon a constitution that is prone to tuberculosis, renders the patient more susceptible to the development of consumption, if the syphilis be not quickly brought under proper treatment and the treatment conscientiously pushed.

Syphilis in conjunction with tuberculosis, if the syphilis be treated and the tubercular affection also treated, renders the tubercular disease less virulent, and prolongs the life of the patient.

These are clinical facts that I have observed again and again, where I have been called upon to treat these lesions of the upper air tract.

A case of tubercular ulcer of the larynx, pure and simple, will generally prove fatal in the first six or ten months, or even in a shorter time. A case of tuberculosis of the larynx with syphilis of the larynx may pull through for one to three years, if the presence of the syphilitic ulcer be diagnosed and treated at the start, and the patient conscientiously follows out the prescribed directions.

These clinical facts were drawn to my notice by the case of a male, whom I treated some years ago at the Bellevue Clinic.

This patient lived in the lower part of the city, on the east side of town, about three miles from the hospital; he walked this distance back and forth, in all kinds of weather, twice a week to have his throat treated at the clinic. The patient was in abject poverty, and with difficulty obtained the necessary amount of food to exist. His principal diet was tea and bread. Meat was a luxury, and only obtainable at times. I mention these facts to show that the case under observation was at the start handicapped by insufficient food and poor hygiene—two strong factors that are required to bring any case of tuberculosis or syphilis to a satisfactory ending. The patient, male, æt. 36, complained upon his first visit of a huskiness of the voice, a severe cough and slight pain in eating. He had first noticed the cough about six months before he applied for treatment. He had lost about fifteen pounds in weight, and was worried by night sweats. An examination of the lungs showed consolidation and the presence of the sub-crepitant rale.

An examination of his larynx showed a tumefaction of the arytenoid cartilages. The left cartilage was covered with a gray deposit. The right cartilage in conjunction with the swelling had a small ulcer about the size of a bean.

The epiglottis was swollen and infiltrated. The entire membrane of the larynx was bathed in a profuse discharge of mucous.

A history of syphilitic infection of five years previous was acknowledged. The diagnosis was made of tubercular and syphilitic ulceration of the larynx, and the patient placed upon a combination of the iodide of potash and mercury.

The ulceration of the larynx yielded to the syphilitic treatment; but again developed if medicine was stopped for any length of time. The grayish deposit in the larynx at no time ulcerated, but remained stationary for the three years that the case was under observation. After having this condition of the larynx for over three years, the patient eventually died of a pneumonia. His sputum was examined and the tubercle bacilli found. If this diagnosis alone had been accepted and the syphilitic ulcer of the larynx overlooked, the patient would have died in three months from his first visit, not of a tubercular ulcer alone, but from a progressive syphilitic ulcer, which would have destroyed the larynx, and the patient would have died from inanition, with the erroneous diagnosis of consumption.

The importance of the presence of these two ulcers in the larynx at the same time cannot be overlooked, and the point borne in mind that a patient suffering from syphilis and tuberculosis of the larynx at the same time, the diagnosis of phthisis alone will be returned if the sputum be microscopically examined and this alone relied upon.

Another interesting point in this case was that the tubercular deposit in the larynx remained non-progressive for three years under the treatment for syphilis.

Case II. Male, æt. 45; average weight in health was about 240 pounds; had contracted syphilis when twenty years old, and had been treated off and on since that time. This patient would consume some days, according to his own account, over thirty whiskies and as many cigarettes as he could smoke.

He applied at the clinic, complaining of a sore throat and night sweats. His weight was reduced to one hundred and sixty-four pounds; he complained of a hard cough and pain in eating.

An examination of his larynx showed a grayish deposit over both arytenoid cartilages, which were slightly œdematous; his right arytenoid had a small ulcer that was covered with a purulent discharge. His sputum was examined and tubercle bacilli were found.

Mucous patches were present on the tonsil. Patient was placed upon a syphilitic treatment, also creosote and morphine for his phthisis. In a month the ulcer in his larynx had healed; but the tubercular deposit remained unchanged, but was not progressive.

The treatment in this case was varied, and it was found that the patient improved much more under the syphilitic treatment than when he was put upon the tubercular treatment alone.

I report these cases, but I can augment my assertions by over fifty of these cases that I have studied during the past year, and they sustain the clinical facts that:

1. Tubercular and syphilitic ulcerations are found side by side in the larynx.
2. That the presence of a syphilitic ulcer by the side of a tubercular ulcer in the anatomy exercises a moderating influence upon the tubercular deposit, if the syphilis be treated, and prolongs the life of the patient.
3. Do not rely upon the report of the microscope in all these cases, as the tubercle bacilli will be found if there be a phthisis, but the syphilitic element, if present, is overlooked.
4. In the case of a mixed sore, the syphilitic ulcer will generally progress quicker than the tubercular, but can be easily controlled if the right diagnosis is rendered.

112 W. 45th St., New York City.

ANATOMICAL DEFECTS IN THE FAUCIAL PILLARS.*

BY JAMES E. NEWCOMB, M.D.

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During the last few years quite a number of cases have been reported in which there has been a defect—generally in the shape of a perforation—of one or both of the faucial pillars. Some of them have been regarded as a legacy from a preceding ulceration, or other destructive process, but in the majority of instances no such explanation has been possible, and the condition has been regarded as congenital. These cases have generally presented a hiatus on each side of the throat at the point where the pillars unite with the soft palate. The openings have been symmetrical and oval, their short and long diameters averaging about 3 mm. and 10 mm. respectively. In some cases they have actually encroached upon the soft palate, but more often they have been lower down, in the pillars themselves, causing even a true isolation of either the anterior or posterior pillars. The edges have been smooth, and the surrounding mucosa of normal color. No cicatricial tissue has been present, or other evidence of previous local disease. Along with this condition the tonsils have frequently been found in a rudimentary state.

Three cases belonging to this category have fallen under my personal observation, and after a study of all the cases thus far reported it occurred to me that it might be opportune to briefly call your attention to the matter.

In the first place, it is seen that under the same general heading there have been described two distinct classes of cases: one in which the etiological factor has been some destructive process, and the other where neither the history of the case nor the local appearances afford any such explanation.

Quite a number of authors have considered this second class as of congenital origin, but the argument advanced in support of this view is not entirely sound. The fact that there has been no knowledge on the part of the patient of the previous existence of any faucial lesion is suggestive, but not conclusive. On the other hand, the argument is supported by the symmetrical situations of the lesions and the absence of cicatricial tissue.

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*Paper read before the Section in Laryngology, New York Academy of Medicine, Jan. 24th, 1897.

The first case reported by Wolters, in 1857, occurred in an adult male. Both anterior pillars presented an hiatus. The literature of the subject is then a blank until 1878, when a second case of symmetrical defects in the anterior pillars was reported by J. Solis-Cohen, the patient being a man of forty years. Cohen suggested that the condition was essentially a separate investment by the pharyngeal mucosa of the palato-glossus muscles, though offering no suggestion as to the cause of the defect. He adds that caution should be exercised in not confounding such absence of tissue with the results of previous ulceration.

A third case, though perhaps not strictly belonging to this category, was published in 1883 by Parker, who reported a large gap in the posterior pillar of the left side, occurring in a young woman of twenty-one. In this case there was the history of a severe cold, followed by left-sided tonsillar abscess. As a result of subsequent sloughing the palato-pharyngeus muscle was dissected up from the walls of the pharynx and detached from its site of insertion, so that while its upper end remained normal its lower end became adherent to the pharyngeal wall. The muscle, as a whole, bulged forward like a piece of tense ribbon, drawing the whole palate slightly toward the right side. A plastic operation restored the parts to their normal symmetry.

Since 1883 the record of cases has increased in frequency, the reporters, including in this country Claiborne, Hamilton, Schapringer, Toeplitz, and Lefferts; and in England, Fowler, Mourice, and Fullerton. In all, forty-two cases have been published, including three to be hereinafter alluded to; but of this number only thirty-one are given with sufficient detail to use for purposes of comparison. Of these thirty-one, twenty-five showed defects in one or both anterior pillars, and six in one or both posteriors. The defect was anterior bilateral in thirteen, anterior right seven, anterior left three, posterior bilateral one, posterior right one, posterior left four, anterior (but side not stated) two.

The sex is stated in twenty-seven: sixteen were in males, and eleven in females.

The age of the patients does not have any special significance, but it is noteworthy that, out of twenty-five instances in which it is given, sixteen were in the third decade of life.

My own cases are briefly as follows:

Case 1.—Woman, 35. Specific disease, gummy deposits in both anterior pillars, with subsequent tissue destruction, leaving both palato-glossus muscles distinctly isolated. The whole process took place while the case was under observation.

Case 2.—Girl, 22. Oval perforations in the upper part of both anterior pillars (See Fig.). No history of preceding faucial trouble.

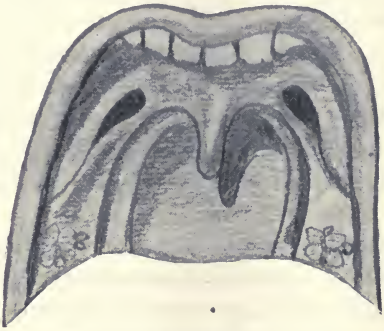

Figure 1.

This patient was seen through the courtesy of Dr. G. A. Dixon, a colleague at the Demilt Dispensary, she having come to his class in general medicine for dyspepsia, and the palatal defects having been discovered during the doctor's examination.

Case 3.—Man, 28. With a small round opening through the left anterior pillar. No history of preceding faucial trouble, or knowledge on the part of the patient that he had such a physical peculiarity.

It is natural to ask if this lesion occurring in the posterior pillars causes any difficulty in swallowing from an incomplete shutting-off, by the soft palate, of the naso-pharynx? In reply, it may be said that no such difficulty has been reported. Chiari says that specific disease leading to such a lesion would probably cause adhesions also, and possibly loss of tissue from ulceration; but this is not inevitable, as Case 1, above noted, clearly shows. Toeplitz states that specific cases would be more likely to show difficulty in swallowing. This view is upheld by Seifert in contrasting supposed congenital with manifestly acquired cases.

Fowler, who has seen at least four cases of palatal defects, maintains that in all such a history of previous scarlatinal angina, or recurrent quinsies, can be elicited, and that close inspection will always reveal the existence of scar tissue. It is easy to see how an abscess in or about the pillars could burst through the latter, though such perforations quickly close up as a rule; but Mourice saw three such cases actually happen in diphtheria associated with scarlatina. The edges of the openings were clean cut, as in gastric ulcer, and there was no attempt at repair. There is, however, a group of cases in which the symmetry, shape, and site of the lesion render any such explanation extremely improbable, to say the least.

In reporting six cases, Boucheron gives us no particulars, except to say that in all lymphoid hypertrophy in the pharyngeal vault was found. He advances the rather absurd theory that the lymphoid masses prevented the proper development of the posterior part of the musculature of the soft palate. He even suggests that the loss of substance may be looked upon as a "stigma" of defective development, but wisely does not attach much importance to this point, especially if the nervous system is in a normal condition.

In one case Schapringer noted a furrow on the upper lip, running down from the nostril toward, but not quite reaching, the muco-cutaneous junction. He suggests that there may have existed an intra-uterine hare-lip, cured before birth.

In a case reported by Postumus Meijes there was a small fibroma on each side of the uvula.

A point of considerable interest is the rudimentary condition of the tonsils frequently found in these cases. Fowler believes this to be the rule. In one of his cases with almost complete absence of the faucial tonsils there was a broad band of lymphoid tissue, suggesting, he says, compensatory hypertrophy, extending across the tongue, apparently anterior (from his description) to the lingual tonsil. It has been pointed out, however, that rudimentary tonsils are frequently found in persons with normal pillars. In one instance Claiborne found a supernumerary tonsil.

All of these cases are, in the main, free from any symptoms; where the tonsils have been wanting there has sometimes been a pocketing of soft foods between the pillars. Most of the cases have come to light during routine examinations of patients who were in no wise suffering from any symptoms referable to the fauces.

The main interest centers about the mode of origin of these tissue gaps in those cases where we can exclude antecedent syphilitic and other destructive processes. In the first place, it may be noted that such gaps may be found in other parts of the body, as the diaphragm, where there is a musculo-membranous structure similar to that of the soft palate. That variety of hymen known as the "cribriform" has been adduced as another illustration of the same fact. It is easy to assume here that we have in this faucial defect a developmental error; but this is only a working hypothesis. We do not know the exact mode of development of the faucial pillars. Testut, the French anatomist, is inclined to believe that these perforations ought to be considered, not as normal depressions, unobliterated during fœtal life, but rather as an embryonic absorption of fœtal tissue previously formed. Nothing analogous to these gaps has ever been found in the lower orders of animal life. Broeckaert suggests that they may be analogous to the partial persistence of the pharyngeal clefts which are sometimes met with in the form of fistulæ, more or less complete, and situated toward the bottom of the lateral walls of the pharynx.

Furthermore, it has been suggested that the gaps may have some relation to bronchial fistulæ; but, as Toeplitz has remarked, their location makes such a relation quite improbable. Moreover, rudimentary tonsils have no necessary relation to intra-uterine development, and the mere fact of symmetry is not a conclusive proof of congenital origin.

There have thus been placed before you the various theories which are extant as to the cause of this condition. It may be that its frequency has been under-estimated, and that it occurs far oftener than the small number of cases on record would lead one to suppose. Light may be shed upon this question, as those present may discuss the matter from the standpoint of personal experience.

NOTE.—Since the foregoing paper was written, Dr. N. L. Wilson, of Elizabeth, N. J., has kindly forwarded me notes of a case which is, he writes, the only one which has come under his notice in thirteen years of special work. His patient was a woman of 67, who, ever since an attack of scarlatina in her third year, had suffered from nose bleed and chronic aural catarrh. The perforation was located in both anterior pillars. The patient had no trouble from the condition, and, in fact, was unaware of its existence.

My attention has also been called by Dr. F. J. Brockway to a statement in the last edition of Quain's Anatomy to the effect that these defects in the faucial pillars are now generally regarded as due to incomplete obliteration of the original branchial clefts.

No. 118 West 69th Street.

Dr. Macnaughton Jones

Reports finding a sprouting hayseed in the meatus of a patient whom he was treating for deafness of the middle ear.—*Am. Medico-Surg. Bulletin.*

Dr. S. C. Stanton

Has been chosen to succeed Dr. Kiernan as editor of the *Medical Standard*, of Chicago.

THE EVOLUTION OF THE BUTTLES INHALER.

BY EDWIN PYNCHON M.D., CHICAGO, ILL.

Professor of Rhino-Laryngology and Otology, Chicago Eye, Ear, Nose and Throat College;
Professor of Diseases of the Nose and Throat, Jenner Medical College.

Both pleasure and profit may often be derived from looking up the history of some familiar implement of trade, which we will thereby learn has, through evolution, materially changed in form, and mayhap also in use, when compared with its earlier prototypes. In all American surgical instrument catalogues, for the past quarter of a century or more, the Buttles inhaler will be found quoted, and generally illustrated, though the illustrations have from time to time varied.

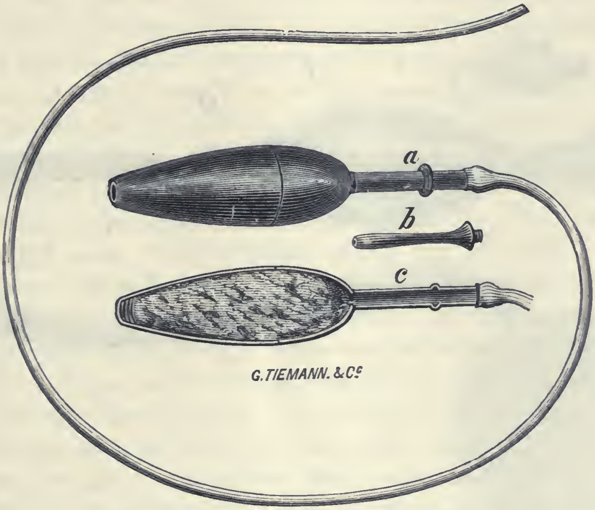

FIGURE 1. The Original Buttles Inhaler (⅖ Size.)

As originally designed by Dr. M. S. Buttles* it was evidently intended that for inflation it was to be operated by either the patient or physician blowing through the rubber tube. The small tip *b* was designed for use with infants, when a short piece of soft rubber tubing was to be slipped over it and the free end introduced into the child's nose. While the open end of *a* was designed for the adult nose, the instrument, when used as an inhaler, was often held in the mouth.

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*N. Y. Med. Record, March 15th, 1866; page 44.

Shortly thereafter this device was modified by Dr. D. B. St. John Roosa, who added a bean-shaped nose-piece with several small openings and also a compression hand ball.

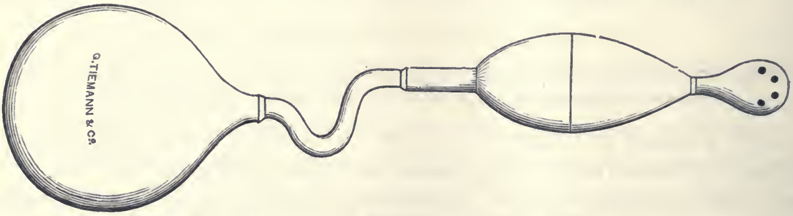

FIGURE 2. Roosa's Eustachian Dilator (⅜ Size).

It next appeared in the form shown in figure 3, the small piece *f* having been added for use with the Eustachian catheter. Strange to say, this style remained practically unchanged for a score of years. It is made of hard rubber.

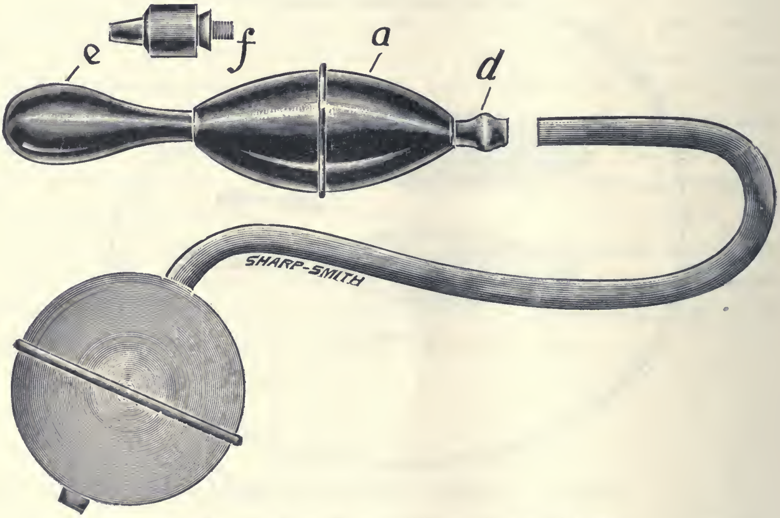

FIGURE 3. Common Form of Buttles' Inhaler (⅜ Size).

Formerly compressed air devices were not in general use, and sprays and their analogues were operated by compression bulbs, which in those days were more desirable than now, as patients were then more often treated at their homes, the special office practice of recent times being comparatively unknown. With the advent of the compressed air apparatus, a desire was manifested to use the Buttles inhaler by attaching it to the cut-off, which was done by somewhat enlarging the hole in the tube-nipple *d;* but this, as generally made, was too slender to allow of the hole therein being sufficiently enlarged without impairing its strength, and, at best, the result was unsatisfactory, as the device was thus awkward to handle.

Dr. Seth Scott Bishop, in appreciation of this trouble, suggested an improvement, both efficient and practical, and it was to supplant the tube-nipple with an expanded collar, so that the cut-off would tightly fit into a conical hole therein.

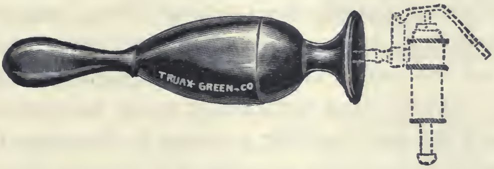

FIGURE 4. Dr. Bishop's Inflater (½-size).

When thus attached the expanded collar serves as a convenient handle whereby the operator can securely hold the instrument, in combination with the cut-off, in one hand, and thus leave the other hand free; but, as will be readily seen, the substitution of the collar, *g*, for the tube-nipple, *d*, spoils the instrument for use with a hand bulb, and necessitates the practitioner having one inflater of each kind, if he desires ever to use the instrument except with the cut-off. The writer, while fully appreciating the value of Dr. Bishop's improvement, noted other defects which called for attention. The most troublesome feature in its use was in making the change from *e* to *f*, which required the unscrewing of one piece followed by the screwing on of the other, which change requires a half-minute's time. To remedy this I had the part *e* changed so that an enlarged hole in same would slip over the end of *f*. In this way *f* is not removed, and to put on or take off *e* requires only a second's time.

In the next place, the shape of the nose-piece *e* was often found to be unsatisfactory; and, as an improvement in its place, I have substituted an acorn-shaped piece (*h*, fig. 5) which has proven to be a perfect fit in every case in which it has been used—never slipping in too far to be effective, as was the frequent fault of its predecessor. I also added a small hard rubber union, *i*, such as is supplied with the Davidson No. 65 spray-bottles, which, when desired, can be left attached to the tube of a hand ball ready for use when called away from the office. If, on the other hand, its use is not required, it can be left permanently, with the sponge, inside the chamber, *a*, without harm, and being thus in its place can always be quickly found when wanted.

The best packing to place inside the medicine-chamber, to hold the medicament, is sponge of strong texture, in one piece, large enough to loosely fill the cavity. Cotton is not desirable for this purpose, and may prove to be very objectionable as, for example, when disintegrated by iodine, in which case its use becomes positively dangerous.

I furthermore observed that the outlet hole was usually made too small; so I have had it materially enlarged, as in successful Politzerization the volume of air driven in is of as much importance as is the pressure employed; and here let me add *en passant* that while Politzerization in this way is easily done with children, particularly if they assist by crying, it is often not so easily done with adults. Failure is frequently met with when the patient is directed to swallow water or say "hick" or some other word which is the favorite of the operator. I have had the most uniform success by directing the patient to cough, and therefore rarely am compelled to use the Eustachian catheter. Either ear can be inflated at will by tightly closing the external opening of the other ear.

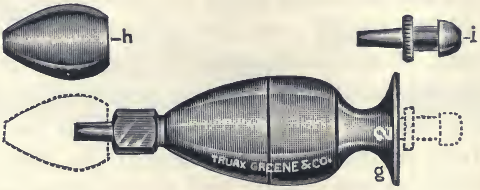

FIGURE 5. Author's Modification (½ size).

The ear specialist will find it convenient to be supplied with several of these inflators charged with different medicines, as his practice requires. In this case he can have them numbered (see fig. 5) so as to be able to easily select the one wanted. It is also not amiss to have one of the set made of metal in which chloroform or any other remedy which would be injurious to rubber can be used, and it may also, if desired, be heated. The expanded collar, *g*, in addition to its being a handle, serves also as a pedestal upon which the inhaler can be set so as to prevent its rolling off the treatment desk. Furthermore, being funnel-shaped, a few drops of the required medicine can at any time be dropped through the opening onto the sponge, thus recharging without having the trouble each time to unscrew or open the medicine-chamber.

By removing this tip, *e*, and holding this instrument between the lips, it can be used with a continuous fifty-pound pressure as an inhaler, when indicated, for the administration of the so-called impaction treatment*. While no nebula is produced, the air entering becomes impregnated with the volatile medicament used, and in practice the results are beneficial.

After the free use of a medicated albolene spray, this instrument can be used as an inhaler, so that with suitably medicated air the oily spray first used may be forced to the deeper nasal recesses and thus be of particular value when any of the accessory sinuses are affected. In such case a twenty-pound pressure used intermittingly would be sufficient. Both nares may be alternately thus treated; the opposite one each time being closed, and the patient meantime inhaling. In this way no middle-ear inflation will occur.

In the treatment of chronic non-suppurative middle-ear trouble, this process can be varied as follows: After freely spraying the nares with a bland, oily spray, as a three-per-cent. camphor-menthol solution in liquid albolene, follow by Politzerization. Some of the oily fluid will be forced through the Eustachian canal into the middle-ear and prove beneficial. The danger of inflation after the use of an aqueous douche or spray is well known; hence, no watery solution should be employed prior to this method of treatment.

When this inflator is used with the Eustachian catheter, a low pressure of from 8 to 15 pounds is sufficient, and the continuous stream of air thus secured often gives far better results than are to be had by the intermitting compressions of a hand bag, particularly if any degree of acute inflammation be present. When used with a catheter the tip, *f*, should be extended with a short piece of soft rubber tubing. To secure the different degrees of pressure mentioned, an auxiliary air-tank is desirable.

In acute coryza, medicated air will prove very efficacious, owing to its power of penetration. The following formula might be suggested:

℞	Guaiacol (Merck),	
	Ol. Pine Needles	āā ʒi.
	Camphor-Menthol	ʒii.
	Ol. Eucalyptus (Saunders)	℥ss.
M.		

Moisten the sponge with 10 or 15 drops, and use by inhalation as previously described. Results quite as satisfactory will be had as are claimed for any of the popularly advertised menthol or "Kangaroo" inhalers.

Columbus Memorial Building.

***Jour. Am. Med. Ass'n.*, May 12th, 1894, page 702.

FURUNCULOSIS OF EXTERNAL AUDITORY MEATUS FOLLOWED BY SUPPURATIVE OTITIS MEDIA WITH MASTOID INVOLVEMENT AND OPERATION.*

BY M. D. LEDERMAN, M.D.

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Although in text-books on otology attention is called to the possible extension of a follicular inflammation of the external canal to deeper structures, the actual occurrence of such a complication is so rare, that I take this opportunity of contributing the history of a case exhibiting these features.

Furuncle of the auditory canal, though generally a disease of short duration, is probably as painful as any ailment affecting this region. Fortunately, the period of its activity may be curtailed by decisive measures; and though at times such methods are rejected by the timid sufferer, the sudden rupture of the furuncle affords relief. This sometimes occurs when the inflammatory process is limited to the superficial tissue. If, however, the deeper layers of the skin become attacked, days of intense suffering are experienced, and extension of the infection may reach the middle chamber and neighboring structures.

Constitutional predisposition is a reasonable and convenient theory to account for the presence of this condition in certain individuals. The tendency of furunculosis to recur in the same person, certainly strengthens this presumption. You must also consider the importance of trophic disturbances, as a factor in giving rise to similar lesions, as pointed out by Urbantschitch. Diabetics are subject to crops of these boils, but their areas of circumscribed inflammations are not limited to the auditory orifices, but are rather general in character. It has been further noticed, that during an attack of furunculosis in an otherwise healthy person, sugar has sometimes appeared in the urine, but vanished after the termination of the superficial disturbance.

The class of cases which comes under the aurist's care is generally of a local character, caused by infection through a break in the continuity of the epithelial layer. This may follow mechanical interference, in the form of forcible manipulations. The infection gradually attacks the hair follicle, and by boring deeper may give rise to a pronounced cellulitis. The latter more frequently takes place in parts of the body where the underlying fascia is generously supplied.

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*Read before The Harlem Medical Association, February 3d, 1897.

Extensive suppuration with necrosis may result in such instances. In the auditory canal, perichondritis and periostitis may follow this apparently simple affection.

Kirchner has discovered the staphylococcus pyogenes aureus in the pus of furuncles, and has produced abscesses in animals by inoculating them with the cultivated products. Even though the skin is sound, infection may occur if the fluid containing this micro-organism be applied to the part with friction. The successive appearance of these boils in the meatus tends to show the active properties of this bacillus, and though the infection may have attacked different follicles at the same time, the return of the disease emphasizes the importance of prophylactic and antiseptic treatment.

Little need be said regarding the symptomatology of this trouble. Local pain and tenderness will promptly direct the attention of the adult to the part affected. When deep seated, the pain is apt to assume a pulsating charactcr. On examination in such cases, the furuncle is flat and not definitely outlined. In a superficial manifestation, the swelling is sharply defined, and quite red in color. The temperature is usually but slightly elevated, but in children it may rise quite high, and is sometimes accompanied by delirium, resembling meningitis. The latter must not be forgotten as a possible complication. Traction upon the auricle will sometimes aid us in differentiating between external otitis and middle ear disease. In the former the hearing gradually becomes worse, while in the latter the deafness is present from the onset. Pain may be experienced over the side of the face and down the neck. When the collection of pus is deep seated, the membrana typani may become inflamed, and being forced inwards may give rise to marked tinnitus, on account of the increase of labyrynthine pressure. This symptom soon disappears after the furuncle is opened. When the upper wall of the canal is attacked the disease is more severe on account of the multiplicity and larger size of the vessels in this vicinity. The tympano-squamous fissure also favors the spread of the inflammatory process. In arriving at a diagnosis we must not overlook the possible presence of a parotid abscess. If such should exist, pressure upon the parotid would increase the swelling in the canal. Frequently, the rapid closure of the meatus prevents an inspection of the drum-head, so that we cannot positively state whether a suppurative otitis media exists, unless same has preceded and is the cause of the furuncle. If such a state of affairs should be present, drainage would be retarded, and mastoid involvement must necessarily be anticipated, if the external swelling does not rapidly subside. Such was the difficulty in my case. We must furthermore remember the possibility of a dissecting abscess, arising from a suppurative otitis media; or a bulging of the posterior wall of the canal, from a periostitis or mastoid disease.

Before detailing the history of my case, a word or two in reference to the treatment of furuncle of this region may not be considered superfluous. Bearing in mind the limited space any swelling of the soft parts of the meatus may occupy, before encroaching upon sensitive structures, it is evident that the principal cause of the patient's discomfort is due to increased tension within a constricted osseous cavity. If the disease has reached an advanced stage, local medication has but little effect upon the agonizing pain. Here nothing short of the prompt and energetic use of the knife will offer the desired amelioration. In the initial period, dry heat may prove of considerable benefit in allaying the suffering. If seen early, topical applications of tincture of iodine carefully applied, or solutions of silver 4 per cent. to 12 per cent., may assist in aborting the attack. Gruber claims excellent results from the introduction of gelatine bougies, each containing one-sixth of a grain of the extract of opium. These he employs when the patient objects to the use of cutting instrument. Ichthyol has been used by some in the form of an ointment, the strength varying from 5 per cent. to the pure drug. When we recall that this medicament owes its therapeutic activity to the 28 per cent. of iodine which it contains, it seems plausible that applications of this remedy may prove beneficial.

For a considerable period I have employed boro-glyceride introduced into the meatus on cotton tampons, and have found it a pleasant and serviceable medication. It is merely boracic acid and glycerine heated together, and then added to an equal quantity of glycerine. This substance is an active and harmless antiseptic. On being added to milk and food it retards putrefaction and acts as a preservative. Its therapeutic value is no doubt enhanced by the hygroscopic property which it possesses. Carbolic acid, atropin and morphin combine with it readily. With the assistance of heat, menthol can be added to it; but on cooling the menthol rapidly appears upon the surface, and the patient, if not cautioned to heat the mixture before applying the same to his sensitive ear, may experience an unpleasant and intense burning. The only objection which can be offered to boro-glyceride is that it is a proprietary article.

Expectant methods must not be prolonged if speedy relief is not effected. It has been customary to cut down upon the furuncle, but I have found quicker relief by transfixing the swelling with a small tenotomy or a Graefe knife, and cutting from within outwards, as suggested by McBride. The patient is apt to jerk the head away at the first impression of the instrument, so that we do not cut as deeply as is necessary with the former method. Following the incision, antiseptic precautions should be observed. A plug of dry iodoform or bi-chloride gauze, moistened with the boro-glyceride, can be introduced into the canal and changed in three or four hours. Another method of cleansing is to instil a saturated solution of boracic acid in alcohol. This naturally smarts for a few moments, and at times cannot be borne by the patient. The solution may be made a watery one instead.

When a tendency to recurrence exists, the alcoholic solution is very serviceable. Unguentum hydrarg. nit., in the proportion of one drachm to the ounce, is said to act satisfactorily in such instances. In all cases of furunculosis, internal alterative medication, together with proper attention to the alimentary tract, is an important element in bringing about a normal state of affairs. Lowered vitality naturally weakens tissue-resistance, and so more easily permits the invasion of adjoining structures by an infectious process. This truism is practically portrayed in the case which I herewith report:

Mrs. X., 29 years of age, presented herself for treatment, complaining of severe pain in the left ear for the last few days. Two weeks ago, before she came to me, she had a boil in the scaphoid fossa, which was lanced by the attending aurist, and soon got well. Some cerumen was at that time found in the canal, and some was removed after annoying manipulation to the patient. From that time more or less pain has been experienced, and the parts were exquisitely tender at the time of my examination. Three months previous to her aural troubles, Mrs. X. had undergone three rather severe operations under one etherization, which consisted of an anchoring for floating kidney, curetting the uterus, and the radical operation for a femoral hernia. She recovered nicely from the surgical treatment, and journeyed south for a change of scenery. Her general condition when I saw her was below par, and her appearance showed the effect of her recent troubles.

On examining the ear I found a circumscribed swelling on the anterior wall of the canal, with some tumefaction of the tragus, which was quite painful to pressure. No evidence of deeper disease was observed. The furuncle was incised, after washing out the canal with a solution of borolyptol. The incision gave immediate relief, and boroglyceride was prescribed. Fowler's solution, together with the rhubarb and soda mixture, was given internally. Three days later another boil appeared on the upper wall of the meatus, with pain referred to the mastoid. This furuncle was opened, and antiseptic douching was carried out every two hours. Tampons of boro-glyceride were introduced during the interim. The canal was almost entirely closed on account of the swelling of the soft parts, but this receded sufficiently to allow of an inspection of the drum. This membrane was found congested, but did not show further symptoms of middle ear involvement until November 14th, when a little pus was seen on the postero-inferior quadrant. The douching was continued, and, as the pain on pressure over the mastoid still existed, the ice coil was applied. No elevation of temperature up to this time. The tumefaction of the canal increased, so that no examination of the deeper portions of the canal could be made. As drainage was obstructed, and as the temperature arose to $99\frac{2}{5}^\circ$ F., with some increase in the mastoid swelling, I informed the patient that, in my judgment, an operation was indicated. She declined to have same performed as she was feeling fairly well, and thought that "Nature would come to her aid." She caused considerable annoyance on account of her peculiar eratic disposition, but on November 18th she felt that the swelling over the mastoid had still further increased, and when she noticed how prominently the auricle stood away from the head, on looking into the mirror, she decided to abide by my judgment.

The usual Schwartz operation was performed. The soft parts were very much congested. Over the antrum the bone revealed the shaven-beard appearance, and I attacked this region with the chisel. No pus was observed, but granulation tissue was found in the antrum, which was removed with the curette, followed by rather free bleeding. The wound was dressed in the customary manner, the upper half being closed with sutures. Two days after the operation the swelling in the canal had almost disappeared. The patient made an uninterrupted recovery, with the exception of some tinnitus, which lasted about two months, but disappeared under inflation and massage. The temperature never reached above 99.8° F.

128 East 60th Street.

Dr. Charles M. Robertson,

Of Davenport, Iowa, formerly Lecturer on Laryngology and Rhinology, Medical Department of the State University of Iowa, has been elected to the Professorship of Laryngology, Rhinology and Otology.

CONTRIBUTION TO THE TREATMENT OF DEAF-MUTISM BY OPERATION FOR ADENOID VEGETATIONS.

BY DR. JOHN SENDZIAK, WARSAW, POLAND.

Much attention has recently been directed to a consideration of the relation of deaf-mutism to the so-called adenoid vegetations of the naso-pharynx (post-nasal growths).

The investigations of various authors in different countries have been carried out, and the same conclusions reached in each instance, namely, that these post-nasal growths are met with much more frequently in deaf-mutes than in healthy children.

Lemcke[1] reports adenoid vegetations occurring in 50 per cent. of deaf-mutes examined; Wisblewski[2] of Poland, 57.5 per cent.; Piesson[3], more than 50 per cent.; Frankenberger[4], 59.49 per cent.; Aldrich (cited by Frankenberger) gives the largest percentage at 73 per cent.

Thus we note the frequency with which adenoid vegetations are present in deaf-mutes. This fact is still more striking when we draw attention to the relatively very small percentage of this affection in quite healthy children.

In these investigations there also appears to be a concensus of opinions. Meyer, the father of adenoid vegetations, notes that scarcely 1 per cent. of healthy children are so affected; Doyer (cited by Frankenberger) gives 5 per cent.; Schmiegelow, 5 per cent. of greater and 15 per cent. of lesser degree; Wisblewski, 7 per cent.; Kafermann, 9 per cent.

What an enormous difference between these two sets of figures! Is it possible to conclude from a consideration of these statistics that this is a mere coincidence? In my opinion it is not.

From a general point of view, it is reasonable to suppose that the child born with adenoid vegetations, or acquiring them in the early years, is usually deaf, or, not being able to hear, soon forgets speech.

Of cases observed with adenoid vegetations at birth, I cite Thost and E. Fraenkel; Jawarski, of Poland, reports the case of a child 9 years old, born with adenoid vegetations; I also have seen several such cases in the new-born.

The cause of deafness is either a mechanical obstruction of the Eustachian tube (ostium pharyngeum tubæ), or the result of inflammatory processes in the middle ear. This is again substantiated by statistics.

Halbeis[5] gives 53 per cent., Meyer 74.8 per cent., and Hartman 74.18 per cent. of post-nasal growths observed in the deaf.

Practical observations prove the correctness of these theoretical conclusions. Thus, cases may be cited where the extirpation of adenoid vegetations in deaf-mutes has resulted in the restoration of hearing.

Two such cases are reported by Arslan, one by Conétoux (cited by Helme[6]). I also had occasion, recently, to observe and treat such a case, with good results.

G., 5 years of age, was referred to me for treatment of deafness. The case was one of congenital deaf-mutism; a 20-year-old brother of the patient is also a deaf-mute (congenital); a sister, also congenitally deaf, died when 4 years old; two other sisters are living, with speech and hearing normal; the oldest brother was born with closed rectum, and died before operative interference could be instituted.

By careful examination, I convinced myself that the child did not hear or speak at all; his utterances were of a scarcely intelligible, stuttering form. The boy was physically quite well developed. Palpation of the naso-pharyngeal cavity revealed the presence of enormous quantities of adenoid vegetations. Inspection of the ears showed a retraction of both tympani. No other changes were noted.

The child snored heavily when asleep, was a typical mouth-breather, and was subject to frequent colds, coughs, etc.; he lacked completely the power of concentrating attention on a definite subject or object.

On the strength of this status of affairs, I advised an operation, without promising, however, an absolutely favorable result. With the assistance of my colleague, Dr. Zielinski, who administered the anæsthetic (chloroform) to "semi-narcose," I performed an operation for the removal of the adenoid growths by means of Jurasz forceps and Gottstein curette; in addition, I employed my fore-finger, wrapped with iodoform gauze soaked in 1 to 1,000 hydrarg-bichlorid., to remove the remnants of the growths, and at the same time to thoroughly disinfect the operated field in the naso-pharynx.

The post-operation treatment was favorably carried out; there were no complications.

Three months later the boy was brought to me, and the mother joyfully announced that, immediately after the operation, the hearing improved, and the child began to pronounce and articulate more distinctly, first single words, then sentences.

Six months later I had occasion to see the patient again. According to the mother's account, the improvement of the hearing and speech continued gradually. Especial stress is to be laid on the remarkable intellectual development which followed the operation; the physical development of the child was also considerably increased.

I report another similar case of a boy, 4 years old, congenital deaf-mute, from whom I removed a large accumulation of adenoid growths, under chloroform. The result immediately following the operation was very satisfactory; the hearing improved, and the child began to speak some words. Unfortunately, further data of this case are wanting.

The result of these observations, and the progress noted after the removal of adenoid vegetations in deaf-mutes, strengthens us in the conclusion that such operative interference is of prime importance, and should be advocated wherever possible.

Even if the results are only partially successful, it does not exclude the adoption of other methods usually employed, such as teaching speech, etc.

The early operation for the removal of adenoid vegetations is advised by many, where general weakness of the child is not a contra-indication, and the operation is sometimes performed on infants but a few months old. The development of deafness can thus be avoided.

In my opinion, the prophylactic measure, which such an operation implies, is of paramount importance, and I feel that the question should receive more careful consideration.

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Surgical Treatment of Deafness.

When deafness is due wholly or principally to some disturbance in the transmitting apparatus, it can be cured by an operation, according to Garnault, consisting of the excision of the tympanum, ablation of the hammer and incus, and moblization or extraction of the stapes, performed through the mastoid. Rinne's test allows the cases that would be benefitted by the operation to be distinguished from those that would not. Garnault states that every case of the kind in which the cranial perception of the diapason is superior to the ærial perception, should be operated.—*Bulletin de l'Acad. de Méd.*, December 29; *Jl. Am. Med. Ass'n.* S. S. B.

CLINICAL REPORTS.

TWO CASES OF ABSCESS OF THE NASAL SEPTUM.

BY E. C. ELLETT, M.D.

Ophthalmic and Aural Surgeon to St. Joseph's Hospital; Ophthalmic and Aural Surgeon to the Children's Home, Memphis, Tenn.

In Kicer's article on "Hæmatoma of the Nose," in THE LARYNGOSCOPE for February, 1897, he mentions that this condition may occur spontaneously as hæmatoma auris does, but is usually traumatic. "The contents of the hæmatoma may vary; most frequently a suppuration will follow shortly after the tumor develops, so that when the case is presented for treatment a more or less developed abscess may be found. This may mislead us in the diagnosis, but the history of the case and the traumatic ætiology confirms these conclusions of hæmatoma."

When that paragraph came to my notice, I was in doubt whether the two cases which I here present were abscesses *ab initio*, or suppurating hæmatoma. My reasons for arriving at the former conclusion will be mentioned:

CASE 1. A boy of sixteen, son of a physician, was brought to me by his father, with the following history: One week before he had, in falling, struck his nose on a fence. The next day he had fever, lasting four days, and going as high as 103°. On the second day after the accident, the day following the rise of temperature, he found nasal respiration impossible. There was not, nor had there been, any nasal discharge. I found both sides of the septum bulging, occluding nares. The swellings fluctuated, but were not tender. The exploring needle showed pus, and I opened the left side of the septum, under cocaine, evacuating a good deal of pus. I irrigated the cavity, and passed in a thin strip of gauze. The swelling was sharply limited behind by the bony septum. The next day he breathed through his nose (both sides), and on the third day after the little operation I omitted the strip of gauze. He has had no subsequent trouble.

The occurrence of fever before the swelling was noticeable, and is the principal point on which I rest the diagnosis of abscess and not suppurating hæmatoma in this case. The pathological explanation is the theory of *locus minoris resistentiæ*.

CASE 2. Was a woman, æt. 24, from Tunica, Miss., who gave the following history: Three weeks before coming to me she had facial erysipelas. The nose and left side of face were swollen, and during the disease her nose became obstructed. In a few days there was a free spontaneous discharge from the nose, which became open. She did not know what the character of the discharge was. The nose promptly stopped up again, and remained so until I saw her. A swelling, sharply limited to the cartilaginous septum, occluded both nares. It fluctuated, and the exploring needle showed a thick, viscid fluid. With the help of cocaine anæsthesia I opened the septal swelling on the right side, and evacuated a fluid, at first thick and clear, but pusiform towards the last. I packed the cavity after irrigating, as I did in the other case. The next day both nostrils were open. The discharge was purulent, but lessened in amount from day to day. One week after I opened the abscess she had to go home, and as there was still some discharge I put a lead style in the opening, bent so as to be self-retaining, and directed her how to take this out and shorten it daily. A month later I saw her for the last time. She got rid of the style in a week, and has had no trouble. The septum is thickened symmetrically at the site of the abscess, and the bridge of the nose is depressed at the union of the bony and cartilaginous portions.

In this case I think the abscess was from infection by the streptococcus of erysipelas. Of Kicer's thirteen cases one was spontaneous, as my second one was. I may be mistaken in thinking these were not hæmatoma, but from the reasons given it seems more probable that they were abscesses.

In Burnett's "System of Diseases of the Ear, Nose and Throat," Jarvis dismisses hæmatoma and abscess of septum in a line and a half. While the diagnosis from the history and the presence of a (usually) bilateral, anterior septal swelling, sessile and fluctuating, is easy, and the treatment is simple, the most pretentious modern work has slighted a subject of at least some importance.

Dr. Fayette C. Ewing,

Of the staff, has been appointed Surgeon in charge of the Out-door Department for the Nose, Throat and Ear, at the Baptist Sanitarium of St. Louis.

Dr. W. H. Poole,

Of Detroit, has moved his office to the Cullen-Browne Building, 270 Woodward Avenue.

EXCISION OF MEMBRANA TYMPANI AND MALLEUS FOR ATTIC DISEASES.

BY B. F. BUTLER, M.D., LONDON, CANADA.

Miss J. M. came to me on January 18th, 1896, for treatment of the left ear, although I had seen her some months previously, and had prescribed for her, the treatment being carried out at home by herself.

She stated that she had suffered from an offensive discharge from the left ear for nine years, dating from an attack of scarlet fever. The discharge was usually slight in amount, but very offensive, and at periods had apparently ceased altogether. She had been subject to attacks of giddiness, especially when stooping; and her general health had been much reduced.

Examination of the ear revealed a perforation of the central portion of the membrana flaccida, blocked by granulation tissue. The membrana tensa was intact. There was considerable nasal stenosis on both sides from hypertrophy of lower portion of septum and inferior turbinates. Eustachian tubes pervious. Hearing in affected ear, for watch, on contact. The nasal stenosis was relieved by means of the electric cautery; and the granulation tissue in the perforation of drum-head was removed by a chromic acid bead, when the neck of the malleus was exposed.

The attic space was frequently cleansed with peroxide of hydrogen and a solution of carbolic acid, by means of the tympanic syringe. Syrup of the iodide of iron was administered. This treatment was continued until April 7th, 1896; but still there was a slight discharge. The patient was then put under chloroform by Dr. McCallum, of London, when the drum-head and malleus were removed under illumination by the electric forehead lamp. The incus could not be found; and the malleus was intact except a carious spot on the articular surface of its head.

Examination with the probe failed to detect any diseased spot in the roof of the tympanum. The operation was somewhat tedious, on account of the hemorrhage obscuring the view? More likely due to a lack of skill on the part of the operator, as I was a novice in this particular department of surgery.

The ear was lightly packed with an iodoform tampon, which treatment was continued for two days; and then an antiseptic solution was used.

The patient was about on the day following the operation, although there was marked vertigo upon assuming the upright position, which disappeared on the second day. In one week the hearing distance for the watch had increased to six inches; but has not improved from that up to the present time. The important thing, as in all surgical cases, is the result; and I must confess that it has not been so brilliant as some surgeons have been able to report. At the present time, February, 1897, there is a slight discharge of a mucoid appearance; but it has lost its offensive nature. The promontory is dry and pale. All vertigo has disappeared, and the general health is good. Although the result of the operation has not so far been quite satisfactory in every particular, yet I feel confident that the cure will eventually be complete. Probably a little further treatment by me immediately after the operation would have accomplished something better; and it is quite possible that there was some diseased spot in the walls of the middle ear, which escaped detection.

Quinine and Atropine.

M. Aubert (*Lyon Médicale*) calls attention to the fact that employment of atropine in connection with quinine will greatly lessen or prevent the disagreeable tinnitus so often caused by this drug. He combined 0.007 of a grain of atropine with five to eight grains of quinine.

Artificial Membrana Tympani.

Dr. Gomez (*New Polyclinic*) recommends discs of blotting paper, cut to the proper size, when the drum cavity needs protection from the air, or when it is necessary to resort to artificial means to keep the ossicula in position.

Acute Otitis of the Middle Ear, Complicated with Mastoiditis, Cured with Antistreptococcus Serum.

A girl of 8 was brought to Wodon for treatment, with a temperature of 39.5 to 41 degrees C., pulse 140, intense headaches, insomnia, tendon spasms and agitation, with numerous streptococci in the pus from the ear. Twenty cubic centimeters of antistreptococcus serum were injected in the inside of the thigh, and an improvement was evident the next day. The temperature fell; the discharge from the ear gradually diminished and finally ceased; the mastoid region lost its inflamed appearance, and in ten days the child was entirely cured. The disfigurement from trephining was avoided, and as Wodon remarks: "Our conduct is henceforth traced for us."—*Presse Méd.* from the *Presse Méd. Belge*, No. 44, 1896; *Jl. Am. Med. Ass'n.*

S. S. B.

NEW INSTRUMENTS.

THE POST-NASAL LYMPHOTOME.

(A New Instrument Devised for the Removal of Adenoid Vegetations.)

BY JACOB E. SCHADLE, M.D., ST. PAUL, MINN.

In view of the fact that a number of instruments and modifications of the same are in existence for the ablation of lymphoid masses at the vault of the naso-pharynx, it may seem needless to add another to the list. But when the peculiar situation and anatomical construction of the post-nasal cavity, as well as the difficulties encountered in operating in this space with safety and ease, are considered, an improvement over former surgical procedures should no doubt receive some recognition.

The ring knife, the cutting forceps, and many varieties of Gottstein's curette all possess merit, and have advanced the surgery of the naso-pharynx. Yet none, on account of its mechanism, is wholly free from danger of producing damage to adjacent normal structures, especially when the instrument is in the hands of a novice.

The organs likely to become injured by an improper use of these instruments are the posterior extremities of the turbinated bodies, the septum, the Eustachian cushion, and the mucous membrane of the oro-pharynx.

The accompanying cut is herewith presented to illustrate a new device, which the writer believes will largely overcome the objections to other instruments now used in adenoid operations. The principle of a tonsillotome has been followed in its construction, and the knife, which is flexible, owing to the curve employed at the distal end to conform to the naso-pharynx, is so guarded that the infliction of injury

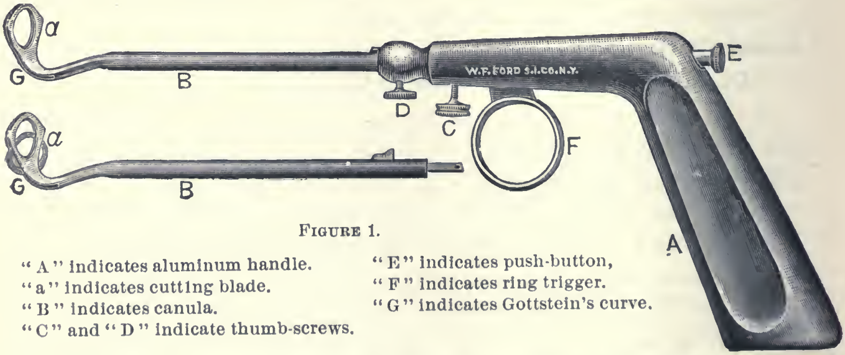

FIGURE 1.

"A" indicates aluminum handle.
"a" indicates cutting blade.
"B" indicates canula.
"C" and "D" indicate thumb-screws.
"E" indicates push-button,
"F" indicates ring trigger.
"G" indicates Gottstein's curve.

to normal tissue is made impossible. For convenience of manipulation a universal pistol-shaped handle (A) made of aluminum is used, to which is attached the cutting blade (a) contained in a canula (B), fastened to the handle by means of thumb-screws (C) and (D). The push-button (E) is pressed upon by the thumb in the adjustment of the knife for an operation. The ring trigger (F) receives the index finger, which pulls the knife through the growth operated upon. The cutting blade can be removed from the canula for cleansing purposes. Blades of different sizes are made, so that the operator can adapt himself to the age of the patient and the size of the lymphoid tumor. Under the writer's personal supervision the Lymphotome was made and perfected by the W. F. Ford Surgical Instrument Company, cor. 32nd St. and Fifth Avenue, New York City.

CORRESPONDENCE.

ABSCESS NASAL SEPTUM.

Editors LARYNGOSCOPE: —

By a curious coincidence my eye falls upon Dr. Edward J. Brown's report of a case of abscess of the nasal septum in the March LARYNGOSCOPE, at the moment a patient with septal abscess is leaving my office. My case is that of a young gentleman who received a violent blow on the nose in boxing ten days ago. With the exception of some obstruction to breathing, slight increase in discharge, and sensitiveness when blowing his nose vigorously, he has had no nasal symptoms of consequence. His chief discomfort has arisen from frontal headache and deep-seated pain in the eyes, suggestive of sinus trouble. I excluded implication of the sinuses, and confirmed my diagnosis by evacuating nearly half a teaspoonful of pus through a free incision of the septal tumor.

It seems worth while to lay some stress upon cases of this kind, because the symptoms are misleading; because, as in the present instance, the accummulation of pus may be so high and so far forward as to escape observation unless the head is tilted well backward; and, finally, because early withdrawal of the pus by free incision is desirable, in order to preserve the integrity of the cartilage and prevent deformity.

CHAS. H. KNIGHT.

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EDITORIAL.

NASAL REFLEXES.

Dr. Arthur G. Hobbs' paper, in the March issue of THE LARYNGOSCOPE, has attracted considerable attention. No doubt many of our readers have met with some such unusual cases. Dr. Hobbs is very anxious to collect reports of unusual cases of nasal reflexes, and will gladly give credit to any physician who will send him a history of any case that they have met with.

So far no one has made an exhaustive study of such cases, and yet the subject is important, and warrants careful consideration.

THE HUMAN KINETOSCOPE.

Considerable interest has been manifested in the advent of that latest of Edison's marvelous electric creations, the kinetoscope, and its foster-sister, the phantoscope; an advent heralded by the world of science with many expressions of appreciation for the skill and ingenuity of such delicate construction and sensitive mechanism. Our admiration knows no bounds as we see an almost living reproduction of every detail of action or of any series of complicated movements possible to animal or mechanical motion.

Yet do we stop for a moment to consider that the impressions of a picture once seen are received on a sensitized area even more delicate than the rapidly-revolving, photo-electric film of the kinetoscope recorder? From earliest childhood our brain is an active kinetoscope, recording with almost every heart-impulse a perfect, permanent picture, which can be recalled and reproduced at will.

An Alpine panorama, a grand painting, a masterpiece of sculpture, can be conjured up before us, every delicate detail of outline, every phase of light and shade, every beauty of form and feature, so accurate and vivid that our entire being is overwhelmed with the mighty strength of the Creator of such a mechanism.

Nor are we dependent on our eye alone for the lens which gathers the pictures for our human, pageless album. We hear a grand oratorio, a master of instrumental music in the rendition of the simplest melody or most complicated chords, a vocal solo of matchless richness and softness, and the picture is indelibly recorded in the mysterious pages of the brain. We are ushered into a darkened room; everything is noiseless; we are conscious of but one impression; a sweet, fragrant odor reaches our olfactory bulbs, and we see before us—what? A dark-red flower, with a symmetrical arrangement of soft, delicately-tinted petals and sepals, a graceful stem, characteristic thorns, and the picture is reprodued by our human kinetoscope—a *red* rose. The odor which we have perceived may have a slight variation—the film changes with a flash, and our rose is *white*.

Half a century may elapse ere that special page in our living album is reached again, but the picture is still there, bright and fresh as when first received on those indelible films, the microscopic nerve-tissue.

And these millions of films, reproducing everlasting pictures, are produced—how?

THE SWING OF THE PENDULUM.

A comparison of the trend of the articles published on the treatment of the diseased conditions of the nasal cavities of ten, or even five, years ago and of the present day is instructive and interesting. Then the *classical* treatment mainly consisted of the use of such remedies as primarily irritated—astringents—with the idea that the secondary effect would be beneficial; now the use of milder remedies is advocated. Much of this change has been brought about by the complaints of patients that the irritant plan of treatment—if it can be so called—did not give them the expected or hoped-for relief. Then but little operating was done, the main dependence being placed on local medication of the diseased parts; now surgery seems to be the main reliance. This change has been brought about by the non-effectiveness of the former treatment, and also by the discovery of the properties of cocaine and eucaine.

The change was rather sudden, and many authors seemed to think, to judge from their articles, that surgery offered a more certain method for the *cure* of the majority of nasal diseases. The fact that spurs, deflections, hypertrophies and other abnormalites were the *result* and not the *cause* of the disease, seemed to escape their observation.

Brilliant operations, quick reliefs and astounding results were heard of, and then—the case dropped out of sight. Many of these cases are now under the care of other physicians for relief from the results of these operations. To-day there is a reaction, and the mean between these two extremes is being reached, although we are still a considerable distance away from it.

The fact remains that surgery should be employed to as little an extent as is compatible with the abnormalities present in the case; then local, constitutional and hygienic treatment must be depended upon to remove *the cause* of the disease. Removal of the *result* does not materially affect the *cause.*

CONTRIBUTIONS TO THE MAY ISSUE.

The May issue of THE LARYNGOSCOPE will contain original articles, editorials, transactions of the Laryngological Section of the New York Academy of Medicine, society proceedings, and the usual condensation of the principal articles from current literature. The following list of original communications will appear in the May issue, or as soon thereafter as possible:

Dr. Ziam, Danzig, Germany: "The Relation between Nasal and Mental Diseases."

Dr. Marcus Kenyon, New York: "Case of Primary Acute Mastoiditis, Bilateral, without Ascertainable Cause Occurring in a Patient with Slight Sclerosis of the Middle Ear. Cured by Operation."

Dr. L. L. Mial, New York: "A Mechanical Saw and Septal Plane."

Dr. W. C. Phillips, New York: "Localized Epithelioma of the Larynx."

Dr. Augustus McShane, New Orleans; "Two Cases of Foreign Body in the Trachea; Tracheotomy; Recovery. Cicatricial Atresia of Both Choanæ."

Dr. J. B. Keber, St. Louis: "Report of Two Interesting Cases."

Dr. Thos. F. Rumbold, St. Louis: "Remarks on Middle-ear Inflation."

Dr. Arthur G. Hobbs, Atlanta: "When Not to Inflate the Middle-Ear."

Dr. Thos. J. Harris, New York: "Prognosis of Diseases of the Internal Ear, with Review of Cases."

Dr. Pierce Hoover, New York: "Hysterical Deafness, with Report of Cases."

Dr. O. F. Gambati, Houston, Tex.: "The Relation of the Teeth to the Ear, Nose and Antrum."

Dr. Wm. Porter, St. Louis: "A New Diagnostic Sign in Thoracic Aneurism."

Dr. S. Oppenheimer, New York: An article.

Sea Sickness; Its Cause and Relief.

The author, James L. Minor, says that the fact that deaf-mutes do not suffer from sea-sickness is evidence to him that sea-sickness is of aural origin. His belief is further strengthened by the fact that deaf-mutes can be turned around very rapidly in a circle without suffering from nausea or dizziness. From this the remedy suggested for the relief of sea-sickness is the anesthetization of the canals by means of an 8 per cent solution of cocaine dropped into the external auditory meatus.—*N. Y. Med. Jour.*

[In order that the cocaine may reach the semi-circular canals, it will be necessary to open the drum-head and the oval, or round, window before applying the remedy—a popular and remunerative procedure. It might be a question for the patient to settle, whether he would prefer eventual deaf-mutism to sea-sickness]. S. S. B.

SOCIETY PROCEEDINGS.

SOUTHERN SECTION AMERICAN LARYNGOLOGICAL, RHINOLOGICAL AND OTOLOGICAL SOCIETY.

[CONTINUED.]

The Necessity of the Complete Removal of the Tonsils Whenever Diseased or Hypertrophied, by Dr. Louis J. Lautenbach, Pa. Read by title.

Spurs of the Nasal Septum as Factors in Diseases of the Respiratory Tract, by Dr. Edward F. Parker, of Charleston, S. C.

Dr. Parker calls attention to the radical difference, etiologically as well as clinically, between spurs and deflections of the septum. The former are direct results of hypertropic or vaso-motor changes along the sutural lines, causing perichondritis or hyper-ostosis, and perhaps secondarily producing stenosis, while the latter are primarily of traumatic origin, hypertrophic changes being only superinduced when the deviation is sufficient to cause stenosis.

Slight deviations produce no practical interference with nasal respiration, and demand no attention, as a rule; but spurs of a size apparently too small to impair the respiratory functions of the nasal fossæ frequently affect other parts by a reflex action. In actual practice the symptoms arising from these two morbid conditions may often be the same, when originating solely from mechanical obstruction to nasal respiration; yet in those cases where the patient is aware of no impediment to normal breathing slight deviations will produce no discomfort, while small spurs may cause extra-nasal symptoms. These observations have often been confirmed by the beneficial results which follow the removal of seemingly insignificant spurs in patients who were unaware of any stenosis.

Spurs along the sutural lines dividing the perpendicular plate of the ethnoid and vomer more commonly give rise to reflex symptoms than those situated along the suture separating the triangular cartilage and hard palate, because the former interfere with the region of the middle turbinate membrane, which has its sensitiveness or irritability increased by the distribution of the filaments of the olfactory nerve.

Septal spurs, by reason of their situation, exert a powerful influence on the whole respiratory apparatus. The peculiar nasal twang, the so-called "dead voice," nasal catarrh, or hypertrophic rhinitis, chronic post-nasal pharyngitis, purulent rhinitis, and chronic pharyngitis, are all familiar and common results of nasal stenosis and interference with nasal respiration due to septal spurs.

They are important factors in the persistence of adenoid growths, somewhat rarely found in adults, the atrophy of the latter at puberty being prevented by the irritation and vascularity induced by the spurs. Their influence on catarrhal and sclerosing inflammation of the middle ear is somewhat doubtful, as the obstruction occurs upon the unaffected side very frequently.

Epistaxis, which is a common symptom of septal spurs, may lead to a suspicion of pulmonary hæmorrhage, as in a case reported. The effect of septal growths on the larynx, trachea and bronchi were discussed, and cases of dysphonia, aphonia, bronchitis, dyspnœa, cough, dysphagia, cervical neuralgia, and paroxysmal retching and hawking, were cited or reported as sometimes of intra-nasal origin.

The Treatment and Prognosis of Catarrhal Deafness in Young Children, by Dr. J. Aloysius Mullen, Houston, Tex.

Dr. Mullen referred to the pathology and treatment of catarrhal deafness in young children, and showed that the prognosis is not as grave in the majority of cases as we have generally been led to believe. In cases in which there is hypertrophy of the pharyngeal tonsil or of the nasal mucosa he first removes the obstruction, and then follows with the daily use of Siegel's pneumatic speculum with Politzer bag attached, and has found this the most reliable treatment. (Dr. Mullen's article will be published in THE LARYNGOSCOPE).

DISCUSSION.

In the discussion of Dr. Mullen's paper, Dr. Dench stated: "The influence of adenoid growths in these cases cannot be doubted, and their removal is of the utmost importance. I believe that the successful result in the cases reported has been more due to the removal of the hypertrophy than to the systematic massage of the ossicular chain. Personally, I do not think this form of exercise to be of any service; you cannot exercise the ossicular chain as a whole in these cases; it is impossible to apply it mechanically to that particular point where it is most needed, as this may be bound down by adhesion.

"My own practice is to remove the obstructing growths, and then let the cases alone. After I have removed the adenoid and the tonsils, I consider the case cured."

Dr. Stucky: "Dr. Mullen stated that he had found a considerable amount of hypertrophic rhinitis in young children. My experience in Kentucky is that we seldom see a child under ten years of age who suffers from hypertrophy of the mucous membrane of the nose. I do not recall a single case of real hypertrophy of the inferior turbinal in a child under twelve years of age."

Dr. Mullen, in concluding the argument, stated: "In answering Dr. Dench's question, I would state that after the operations in some of these cases the hearing improved somewhat; several of the cases had already had the tonsils and adenoids removed, and came to me for the treatment of the deafness, which had persisted.

"In regard to the hypertrophic rhinitis referred to by Dr. Stucky, I would state that this might be influenced by the humidity of the atmosphere in which I live, being in close proximity to the Gulf."

Contribution to the Treatment of Deaf-Mutism by the Operation of the So-called Adenoid Vegetations, by Dr. J. Sendziak, of Warsaw, Poland. (Dr. Sendziak's paper is published in full, pp. 235-237, this issue).

The Treatment of Laryngeal Tuberculosis with Cupric Interstitial Cataphoresis, with the Report of Cases; the Advantages of Direct Laryngoscopy in this Method, by Dr. W. Scheppegrell of New Orleans.

Dr. Scheppegrell, after referring to the gravity of this affection, described a number of methods which have been advocated for its alleviation and cure. He described Heryng's method of curettement and the application of lactic acid, and compared it with the galvano-cautery treatment, as advocated by Srebrny. The results in both of these treatments were somewhat better than those which have been previously reported, but still were not very encouraging. The first method was liable to hæmorrhage, and the second to considerable reaction from the application. Both were difficult to apply, requiring considerable manipulative skill, and neither of them was applicable in all cases.

He then described the principle of cataphoresis and his method of applying it to the larynx. He has experimented with a number of substances, such as creosote, guiacol, iodine, chloride of zinc and the oxychloride of copper. Guiacol was useful where the alleviation of pain was the principal object; the oxychloride of copper possesses marked microbicidal properties and stimulates the tissues to a healthy reaction.

In applying cupric cataphoresis, he uses spherical bulbs of pure copper, one-eighth to one-fourth inch in diameter, attached to an insulated handle. These bulbs, connected with the positive pole, are applied directly to the tissues, a current of two to five milliamperes being used for three to ten minutes, the sitting being repeated every two or three days. A dispersing electrode, connected with the negative pole, is applied to the back of the neck. He has used copper needles for this purpose, but abandoned them for the copper bulbs. The copper in contact with the tissues is electrolized, and the oxychloride of copper, which is produced, passes into the tissues. Cocaine anæsthesia (5 per cent. solution) is necessary in the majority of cases.

He then explained the great advantages of Kirstein's method of direct laryngoscopy in this method of treatment.

Dr. Scheppegrell has found the following advantages from the application of cupric electrolysis in the treatment of laryngeal tuberculosis:

1. There is *no real destruction of the tissues*, and *no laceration of the surfaces* which might form a point of entrance for new pathogenic germs for reinfection, as is the case with the method of curettement, and, to a certain extent, also, with the galvano-cautery and simple electrolysis. The cure is effected by the healthy reaction of the tissues, in the same manner that we often see specific lesions heal when the system is under the influence of mercurials.

2. In the cases which he has treated with this method, there has been *absolutely no reaction or hemorrhage* following the application—a point of great importance with tubercular patients.

3. This method does not demand the high degree of manipulative skill required for curettement and the electro-cautery in the larynx, and is especially simple when direct laryngoscopy can be used.

4. This method is applicable to *all cases* of laryngeal tuberculosis.

The clinical history of three cases in which this method was used with satisfaction is then given. In the first two cases, the ulceration was cured and the infiltration diminished, when the treatment had to be discontinued on account of the aggravation of the pulmonary disease, to which the patient subsequently succumbed.

In the third case, in which no pulmonary disease could be detected, but in which the bacilli of tuberculosis was found after repeated examination of the sputum, and in which the clinical signs of tubercular laryngitis were very marked, the patient had lost twenty-five pounds, was so weak that he could walk only when supported, and deglutition was so painful that he could swallow only with the greatest difficulty. There was no history of any specific affection. Antiphthisin had been used without effect. The arytenoid region was much infiltrated, with extensive ulceration of the inter-arytenoid fold, extending to the left over the ventricular band. The epiglottis was tumefied with ulceration of the left anterior portion. The anemia, infiltration and ulceration presented a typical image of laryngeal tuberculosis.

The cataphoric treatment was at once commenced in this case; at first every three days and afterwards twice weekly. Improvement was noted after the third application, and after the ninth the ulcerations had healed so far that the patient could swallow semi-solid food with but little pain. The case continued to improve, and eight weeks later was entirely cured, with the exception of a slight huskiness due to injury of the vocal cords. Six months later the larynx showed no return of laryngeal disease.

PRESENTATION OF NEW INSTRUMENTS.

Dr. Scheppegrell then exhibited a number of electrodes for cupric electrolysis of the larynx, some of which were to be used with the laryngeal mirror, and others by direct laryngoscopy.

Dr. Scheppegrell also exhibited a new mechanical saw and masseur. In this mechanical saw the handle, instead of being at right-angles with the direction of the saw, is at an obtuse angle, thus giving it the shape which has been found the most convenient in ordinary nasal saws, and which prevents the hand holding the saw from coming too near the face of the patient. In order to permit this position, the backward and forward movement of the saw is obtained by means of a ball revolving at an eccentric. The saw is operated by the ordinary motor or dental engine.

The second advantage claimed for this instrument is that the saw is at a higher plane than the transforming mechanism, so that it enables the operator to see more fully the work that is being done by the saw within the nasal cavity.

The third advantage is that the arrangement by which the saw-blades are held in position enables the saw to be used, not only upwards and downwards, as in the mechanical saws already described, but also at any required angle.

The fourth, and not least, advantage is that the movement of the saw may be instantly started or stopped, or increased or decreased, by the movement of a sliding thumb-piece in the handle, without arresting or changing the movement of the motor. The same instrument may be effectively used for massage of the upper respiratory tract. This instrument is made by Messrs. Geo. Tieman & Co., New York.

At the evening session, Judge A. G. Brice, chairman of the Auxiliary Reception Committee, read an interesting paper on the "Division of Labor and the Development of Specialism," which was listened to with marked attention. The Section then adjourned.

Official Organ.

A motion was made by Dr. Edward F. Parker, of Charleston, S. C., seconded by Dr. J. A. Stucky, of Lexington, Ky., that the THE LARYNGOSCOPE be made the official organ of the Southern Section of the American Laryngological, Rhinological and Otological Society: which was unanimously carried.

THE NEW YORK ACADEMY OF MEDICINE.

SECTION ON LARYNGOLOGY AND RHINOLOGY.

Stated meeting held on Wednesday, March 24th, 1897, at 8:15 P.M. Joseph W. Gleitsmann, M.D., Chairman; T. P. Berens, M.D., Secretary.

PRESENTATION OF CASES.

Papilloma of Larynx with a Peculiar Accident, shown by Norton L. Wilson, M.D., Elizabeth, N. J.

a. Frank Reilly, age 3 years, came to my clinic at the Elizabeth General Hospital in September, 1894. Papilloma of the larynx was diagnosed, but owing to the smallness of the larynx it was found impossible to remove it through the mouth. The growth sprang from the right side of the larynx, just below the vocal band, and with forcible expiration could be thrown up between the bands. It grew rapidly, and tracheotomy was performed. The patient did badly under chloroform, but some days after this operation the remaining rings of the trachea and lower half of the larynx were split and the growth removed. This afforded only temporary relief; and several months after the first operation it was repeated, this time more thoroughly, but again the growth grew rapidly. An intubation tube was introduced for the purpose of making pressure. This was coughed out in a few hours, and I then resorted to the alcohol spray, which was faithfully used for four months; not finding the good result mentioned by Dr. Delavan, I again introduced the intubation tube, using the 3–4 year old size. The boy is now 5 years old, and it was my desire to introduce the largest tube possible. The tube was introduced after some little difficulty, and the head rested upon the vocal bands and apparently filled the larynx very well. The first time the nurse removed the inner tube of the tracheal tube (for that was allowed to remain), the laryngeal tube fell into the fenestra of the tracheal tube. You will observe from the cut that the intubation tube turned within the larynx so as to accommodate itself to the opening in the tracheal tube. It became so thoroughly engaged that it was impossible to extract it through the mouth. The upper end of the tube could not be felt in the larynx with the finger, but the extractor would slip down between the vocal bands and could be plainly felt to strike the metal tube. It could also be felt by the finger in the œsophagus through the muscular walls of the trachea. Fortunately the patient did not suffer much from dyspnœa; but the tubes were becoming foul, and I determined to remove them through the trachea. The ring below the tracheal tube was split and two above it, and with but little difficulty the tubes were removed just as you see them in the cut. My only explanation of the tube dropping down is that the continuity of the lower part of the larynx was destroyed by the previous operation, and thus allowed the tube to slip down. My only reasons for exhibiting this case is as a warning to others who may not be so fortunate in having the patient survive.

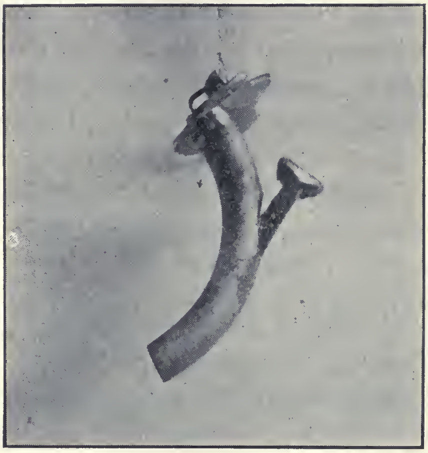

FIGURE 1. Intubation Tube in a Tracheal Tube.

FEATURES OF THE CASE.

1st. Tracheotomy tube worn for 2½ years without injury to general health.

2d. Four months' use of alcohol spray did not improve him.

3d. Peculiar accident as mentioned above.

4th. The boy has received no treatment since last September. Up to the holidays he could not breathe through larynx. He now breathes through larynx, showing some improvement without treatment.

b. Case of **Atrophic Rhinitis, Showing Sphenoidal Opening.** Presented by Wendell C. Phillips, M.D.

This case was one of advanced stage of atrophic rhinitis. All the turbinated bones were gone except a thin plate of the middle turbinated bone on each side. These were so far distant from the septum that the openings of the sphenoidal cells were brought distinctly into view; this is of particular interest to us in view of the fact that a discussion took place in this section last year in regard to the distance of these openings from the top of the nose.

In this case the distance is exactly 3¼ inches from the tip of nose externally. It seems to me that, on account of the great diversity in the external contour of the noses, all measurements should be from the lower end of the anterior border of the septum, and even then there will be considerable variation.

c. Case of **Tumor of the Larynx,** presented by Wendell C. Phillips, M.D.

This patient was brought before the section by G. C. Gage, M.D., who wished for a careful examination by the members in order to aid him in making a diagnosis. He gave the following brief history:

Man, forty-two years of age, cigar-maker; he is a smoker, and has had frequent attacks of laryngitis, lasting four or five days. He gives syphilitic history.

Two years ago a swelling appeared at the base of the tongue, which was soon followed by much swelling of the neck. The arytenoids were involved by the tumor, and he now suffers greatly from aphonia, dysphagia and dyspnea.

This meagre history is due to the fact that he is a foreigner, and a history is obtained with difficulty.

DISCUSSION.

Dr. Quinlan asked if a section of the growth had been obtained for examination. The subjective symptoms were absent to a large extent, which added greatly to the difficulty in making the diagnosis.

Dr. Gleitsmann advised laryngotomy. Should cut down to base of tumor and learn character of growth.

Dr. Wright said we must have further subjective symptoms to enable us to make a diagnosis. An adeno-carcinoma may last three or four years without working down. Should expect some ulceration and secretion. To him it looked more like an adeno-carcinoma or sarcoma.

Dr. Freudenthal once thought the case was of a tuberculous nature. He had removed parts of it and saw a decided change afterwards; the growth grew rapidly, and was twice as large as when he last saw it. He had since given up idea that it was tuberculous. The left side was not congested, but rather anæmic; afterwards a change came on, such as now noted.

Dr. Phillips, in closing the discussion, said he regretted he could not give the section a more clear history of the case; but he would have a section removed for microscopical examination, and at the next meeting would no doubt be able to give a more complete history, as well as the pathologist's report.

Dr. Gleitsmann presented a case of **Tumor of the Larynx**, which resembled a so-called prolapsus of Morgagni's ventricle. According to the latest researches by B. Fraenkel, Chiari and others, these formations have to be considered a hyperplasia of either the lower surface of the ventricular bands or of the upper one of the vocal cords.

The woman, thirty years of age, complains of hoarseness since July, of pain at deglution since eight weeks. She had received treatment before, and lately two pieces are said to have been removed, with but temporary and slight relief. At inspection is seen a red protuberance at the right side of the larynx, situated between the false and true cord, which after coercion can be pushed back into the ventricle, to appear again at once when released. The whole larynx is slightly hyperæmic, but the growth does not appear to the speaker to be tuberculous in nature. The lungs being sound, and the appearance of the patient otherwise healthy, he hopes to be able to reproduce the patient after removal of the growths, together with a microscopical report.

PRESENTATION OF SPECIMENS AND NEW INSTRUMENTS.

a. Dr. Robert C. Myles presented a specimen of Sarcoma of the Tonsil; Microscopial Reports, and Description of Operative Procedures.

Mrs. F—, aged 41, applied to me on Jan. 5th, 1897. She stated that in November last she began to be troubled with her throat, and that twice during this month she lost her voice entirely for four or five days. Since that time she has been troubled with a constant desire to clear the throat. She also complained of irregular pains in front of the ears.

Upon examination, a peculiar, pale, semi-transparent tumor was observed protruding from the lower part of the left tonsil, and extending upon the base of the tongue. It was oblong and acorn-shaped; was rather firm to the touch, and presented the general appearance of sarcoma. A portion of it was removed and sent to Dr. Prudden, who, in his report, said: "The only thing which I can make out with certainty is a chronic interstitial fibrous hyperplasia. There is no evidence of epithelioma; there is fibrous hyperplasia; the possibilities of sarcoma remain undetermined."

On Jan. 13th, I removed the tumor within the lines of the pillars, and sent the specimen to Dr. Prudden, who reported as follows: "The anatomical diagnosis is accordingly polyhedral and spindle-celled sarcoma."

On Feb. 12th, the growth was removed by cutting through the upper portions of the palato-glossus and the palato-pharyngeal muscles down to the constrictor; the parts were dissected with the electric knife downward to the lower border of the tonsil, exposing the fibers of the constrictor muscle; the finger was passed behind the mass, which was pressed forward, and I removed the lower part with the electric snare. Three weeks later there was evidence of recurrence; the suspicious formation was removed with an electric knife.

A specimen was sent to Dr. Vissman, who reported as follows:

"It is not altogether improbable that you may have a case of 'Billroth's Malignant Lymphoma,' or pseudo leucæmia, but the piece I have examined excludes sarcoma."

I also sent a specimen to Dr. Prudden and received the following report:

"Should the question arise whether it may not be after all a simple hyperplasia of the tonsil, the extension of the new tissue among and into adjacent muscle bundles, crowding the muscle fibers apart, producing extensive atrophy and destruction of some of them, furnishes corroborative evidence of the strongest character as to the sarcomatous nature of the growth. The morphological diagnosis is accordingly polyhedral and spindle-celled sarcoma."

I also sent a specimen to Dr. Jonathan Wright, who made this report:

"I am more than usually inclined to make a positive diagnosis of small, round-celled sarcoma, bearing in mind, however, the fact that the subsequent histories of these cases frequently tend to disprove even as strong a microscopial diagnosis as is warranted here."

The diversity of opinion entertained by pathologists concerning microscopial evidences of sarcomatous growths in the lymphoid tissues is sufficient reason for calling your attention to this case.

b. Demonstration of Miculicz Glass Canulæ for Laryngeal and Tracheal Stenosis, with remarks by J. W. Gleitsmann, M.D.

The speaker recommended the use of these tubes in severe cicatricial stenosis from disease, traumatism, etc., and not in stenosis of slight degree, which can be treated by bougies or intubation. He showed large drawings, which demonstrated very clearly the tubes in position.

In introducing the tube, an incision is made six to eight centimeters in length. If the tube employed reaches beyond the vocal cords, one of triangular shape should be used. Tubes are usually left in two or three days. Patients soon learn to remove the tube themselves.

Dr. Kuemmel, in giving histories of eleven cases, noted that two died and nine were cured; average time of treatment was fourteen months. The speaker then reported a few cases briefly. The case that was cured quickest was one of subglottic laryngitis; cured in four and one-half months. Another case which required over twenty-five months to cure, was one of stenosis following typhoid fever, in which there were recurrences of cicatricial tissue. Two of the cases reported were papillomatous.

Paper of the evening was read by Jonathan Wright, M.D. Subject:

The Pathology and Interrelation of Various Intranasal Manifestations of Chronic Inflammation.

Chronic inflammation of the nasal mucosa is a slow process, modified by internal and external influences, by climate and occupation, by systemic dyscrasiæ and racial peculiarities, by local configurations and concomitant lesions, by sex and age. Its clinical manifestations are considered under many different heads. Nasal polypi and polypoid degeneration, ethmoiditis, sinus inflammations, hypertrophic rhinitis, vascular hypertrophies, bony cysts of the middle turbinate, spurs and deviations, are merely manifestations of the same process modified by circumstances and differences of the configuration of different regions and in the structure of the mucosa and its underlying cartilage and bone. The pathology which underlies them all binds them together and furnishes missing links in their etiology. In order to draw a little more attention to this fundamental unity of various intranasal conditions, as well as to emphasize certain points which seem of interest or likely to excite discussion, this paper has been prepared.

It is unnecessary to speak of the etiology of chronic inflammation in the nose farther than to remind you that vasomotor excitability is an indispensable factor. This, arising from local, or reflex, or systemic causes, such as coryza or dust, dyspepsia and constipation, rheumatism and gout, supplies the over-nutrition to the tissues which leads to the changes in the mucosa.

In the region of the inferior turbinated bone, especially at its posterior and inferior border, and at the adjacent parts of the septum, we have a thick, vascular mucous membrane covering a well-defined periosteum, which in turn covers a firm bony structure. The walls of the venus sinuses and the surrounding stroma are well supplied with unstriped muscular fibres.

We are all familiar with those hypertrophies at the posterior ends of the inferior turbinated bones, which present a mamillated or mulberry surface. It is possible to trace all degrees of this furrowing of the surface up to a condition which, to the naked eye, bears such a close resemblance to papilloma. How this occurs is a matter of considerable interest. Doubtless there is a continuous growth of fibrous tissue in these ridges and processes, but evidently the form it takes is dependent largely upon the dilatation and collapse of the erectile tissue. Normally, the fibrous tissue is largely made up of curling fibers, which have the power of diminishing the volume of the mass regularly, when vaso-motor contraction drives the blood out of the venous sinuses. We have in the unstriped muscular fibers scattered through this stroma a powerful adjuvant in this physiological action. If you will note a posterior body distended by blood, when there is no fibrous hypertrophy present, you will see a smooth surface. In a few minutes, vasomotor contraction may suddenly occur and the engorged tissue collapses; then in the post-nasal mirror you will see little rugæ on the surface. Even in the normal state a slight folding occurs. When the fibrous hyperplasia has markedly advanced, we find that the elastic fibers have lost their characteristic appearance. They have been replaced by, or metamorphosed into, long straight ones of low organization. The unstriped muscular tissue has largely disappeared. The surface epithelium is somewhat metamorphosed, and the number of its layers increased. After these changes begin, collapse becomes more or less incomplete, but the furrows grow deeper through the growth of the fibrous tissue.

The vascular dilation increases in the deep vessels; but near the surface, through the constricting action of the pressure of the growing fibrous tissue, the smaller network becomes more or less obliterated and we have an inert mass blocking up the inferior meatus. This result of chronic inflammation may be observed in the nose wherever there exists the so-called erectile tissue. In places on the septum, varying in different individuals as to amount and exact locality, the erectile tissue may also frequently be found as well as upon the inferior turbinated bone. In Zuckerkandl's work (Norm. und Path. Anat. der Nasenhöhle: Taf. 11, 1, 2, Vol. II, 1892) you may see these ridges and folds of the hypertrophied mucous membrane, and many of you have, doubtless, observed the condition clinically. Hopmann (Virchow's Archiv., No. 93, S. 234-6.), Zarniko (Virchow's Archiv., No. 128, S. 132), Kiesselbach (Virchow's Archiv., No. 132, S. 371.), have reported rare papillary conditions in certain growths of the middle turbinated, which in another paper I hope to show are connected with the development of œdematous polypi. You will frequently see in these vascular hypertrophies that the tissue in the large growths of long standing cases looks, in situ, translucent and watery, the color being either pale or dark red. This, when snared off, will be seen to exude watery secretion as it contracts. Examined microscopically, you will observe œdematous areas similar to the structure of the mucous polypi of the middle turbinated. These areas are usually observed at the periphery of the lobules close beneath the epithelium. These are links in the pathology which connect vascular hypertrophies of the inferior turbinated with œdematous conditions of the middle turbinated bone, the varying preponderance of the different manifestations of chronic inflammation depending upon variations of the anatomy of the mucosa. There are also certain differences in the character of the hyperplasia and degeneration of the fibrous tissue of the mucous membrane, according to the age of the patient. In people past the age of forty-five, you will begin to observe that the fibrous tissue fibers are losing their outlines, and we have large areas of structureless material appearing as a result. The older the patient the more marked is this appearance. The same change is sometimes seen in younger subjects of low vitality.

Bone disease is more frequently observed and more pronounced in the ethmoid and its process, the middle turbinated bone; but in extensive disease of the mucosa of the inferior turbinated, osteophytic deposits are found along the lower border of the bone when small portions are removed surgically, and they may frequently be observed in anatomical preparations of the skull, evidently due to the involvement of the periosteum in chronic inflammation. In ordinary ecchondroses of the septum, to be carefully distinguished from dislocations and curvatures, there is nearly always thickening of the mucosa which covers them. Microscopically there are evidences here also that the inflammation has spread through the mucous membrane to the perichondrium, and that we have an analogous deposit of cartilage cells. These cartilage cells have nearly always changed to some extent to bone. On the bony septum in exostoses there is a similar proliferation of bone. It seems to me that septal deviations and curvatures are due to a certain extent to this hyper-nutrition, causing growth in the vertical and horizontal diameters of the plane of the septum.

Not only is vasomotor excitability a connecting link in the etiology of the fibrous and vascular hypertrophies of the lower nasal regions, but it also plays an important part in the production of œdematous polypi. In hay-fever the vasomotor derangement originates largely in some vice of the central nervous system. According to my observations, chronic nasal occlusion rarely antedates the first attack of hay-fever. Nasal polypi, when present, are rarely found until the patients have suffered from two or three attacks, usually not until after many seasons. A prominent symptom of hay-fever is the nasal watery discharge during the attacks. This fluid comes by transudation from the dilated blood-vessels. The mucous membrane is pale and water-logged, though swollen and sodden. The microscope shows it to be similar to the ordinary nasal polypus. After frost the condition subsides, and many cases then present a fairly healthy mucosa. The vessels are able to regain their tone, and to hold within their walls the serum of the blood. After a number of attacks they gradually lose their power. After the vasomotor excitement subsides, a little œdema still remains. This increases; and with decrease in the number of glands, and a thickening of the epithelium, there gradually develops an œdematous rhinitis, and the formation of pendant areas, which we term mucous polypi. Clinical and microscopical observation have convinced me that in many cases of hay-fever this is the sequence of events. Though this may not occur uniformly, I nevertheless believe that often the nasal polypi which accompany hay-fever are neither the cause of it nor a coincidence, but the result of it. Study of rhinological literature and of nasal growths microscopically, seems to justify us in thinking that true myxoma does not occur in the nose.

The mucous membrane on and above the middle turbinated bone is less vascular than in the region of the inferior; the epithelium is more delicate, and is supplied with cilia. There is not so much fibrous tissue, and the periosteum is less dense. The bone is made up of delicate, branching plates, lined on both sides with mucous membrane, the deep layers of which communicate with one another in places through spaces in the bone. In a paper dealing with the vascular mechanism of the nasal mucosa (*Am. Jour. Med. Sciences*, May, 1895) I have shown how the deep radicle arteries and veins enter the nasal chambers together through the same bony canals; so that vasomotor dilatation of the artery not only lets in some more blood to the mucosa, but, by encroaching on a neighboring vein compresses it, and thus obstructs the venous return. A permanent dilatation of the artery through vaso-motor paresis, usually dependent upon chronic inflammation, brings about a condition of engorgement of the deep sinuses in the erectile tissue of the inferior turbinated body. In the mucosa of the middle turbinate, however, the same condition is favorable to the exudation of the watery parts of the blood from the peripheral thin-walled vessels. The formation of inflammatory deposits of cellular, fibrous or bony character would produce the same result; for the walls of the deep veins, though scarcely supplied with muscular fibers, are thin, and very much more compressible than the thick, muscular walls of the arteries. If you will examine the normal mucous membrane in the young animal, or in the human infant, you will find strong evidence that more or less of this exudation goes on normally. You will note that the nuclei of white cells without the cell bodies are washed through or between the endothelial cells of the vessels into the stroma, and through the epithelial lining of the glands and of the surface. You will see that in places the cilia of the surface epithelium is crowded with these nuclei, which are really only cellular detritus.

In the nose gelatinous mucous polypi are produced by inflammation only when some of the causes mentioned brings about chronic congestion of the parts and the effusion of an abnormal amount of serum. Some hyperplasia of the stroma, some degenerative changes in the glands, take place and the surface epithelium occasionally becomes thickened and metamorphosed in places into flat cells. All these changes not only prevent the reabsorption of the serum, but to some extent prevent it from exuding at the surface.

The bone normally contains abundant areas which are filled with delicate connective tissue producing the osteoblasts and osteoclasts which line the bone. In some places small cavities, similar in structure to the larger ethmoid cells, have been shut off during embryonic life from communication with the surface. In the middle turbinated these tiny cells are lined with cylindrical ciliated epithelium. In the first place the bone tissue may be greatly increased in amount by the excessive activity of the osteoblasts. Accompanying this almost invariably some rarefaction is caused by the activity of the osteoclasts. When this process occurs in the walls of these small bony cavities an increase in their diameter follows, the osteoblasts depositing bone salts and forming bone cells, and the osteoclasts along the inner surface absorbing bone salts and disintegrating bone cells. Histologists tell us that osteoblasts are converted into osteoclasts, and inversely that osteoclasts may be converted into osteocblasts. These patches of connective tissue lying in the bone and communicating frequently with what is external to it are ordinarily known as the Howship lacunæ of bone.

It is a curious clinical fact that the majority of cases of atrophic rhinitis and of bony cyst of the middle turbinated occur in women, while pure fibroma of the nasal pharynx is found almost exclusively in men. This pathological process which I have considered previously (*N. Y. Med. Jour.*, June 27, 1896) may not only enlarge a small closed cavity in the middle turbinated bone, but may act in the same manner in the prolongations into it of the cavities from the body of the ethmoid. In some specimens there is communication with the cells of the body of the ethmoid, and the question arises as to whether this is not always the case.

It naturally follows that the effused serum tends to infiltrate not only the sub-epithelial stroma, but to extend through it and with it into the substance of the bone and by pressure cause dilatation, absorption, and granular disintegration of the bony structure. Now we have the clinical condition of ethmoiditis. This process is usually confined to the middle turbinated, but sometimes it extends higher up into the cells of the ethmoid body. Secretions there become infected and purulent, and we have the dangerous but rare form of inflammation which we know clinically as empyema of the ethmoid sinuses. It is this clinical difference which has led to the apparent difference in the experience of observers as to the frequency of ethmoiditis. This condition is often observed in the middle turbinate but it is much more rare in the ethmoid sinuses than purulent inflammation of the maxillary sinus. The occurrence of serous infiltration in inflammations of the mucosa of the middle turbinated region causes the frequent association of ethmoiditis, mucous polypi and cysts, of the bone.

Chronic inflammation with edema may spread to the mucosa of the other sinuses, and by obstructing their outlets cause a purulent affection. Or purulent inflammation may start first in the frontal maxillary sinuses, and by its ichorous discharges set up an inflammation of the intranasal mucosa around the hiatus semilunaris with the formation of polypi. This we know from the clinical observation that nasal polypi will promptly disappear, from the nasal chambers; or cease to recur after removal, when associated with empyema of the antrum, if the latter is drained by an opening from below. We occasionally meet with a case in which every one of the lesions mentioned are simultaneously present in the nasal chambers.

DISCUSSION.

Dr. Mayer said that the subject had been so thoroughly gone over by Dr. Wright that it seemed superfluous to attempt to add anything. He asked the speaker if he maintained the same position assumed last year, when he stated that there were eighty per cent. cocci in the mucous obtained from a normal mucous membrane of the nose.

Dr. Myles spoke of the spurs found in children, and how they resulted from trauma.

Dr. Wright, in closing the discussion, said that many observers, including Thompson and Hewlett, of London, had made the assertion that the nasal mucous membrane was absolutely sterile. In regard to the bactericidal powers of this mucous, which was claimed by some, he did not believe in such action to the degree claimed. Dr. Park and he had made observations for two years, endeavoring to confirm Thompson's and Hewlett's statements in regard to the sterility of the nasal chambers, but with the contrary result. His previous bacteriological examinations were made ten years ago. He has no recollection of having made any such statement as referred to by Dr. Mayer.

In referring to spurs, he explained how they occurred as the result of blows, by starting up an inflammatory process. There was a solution of continuity at the point of greatest convexity, by bending, from the force and the cartilaginous hypertrophy, subsequently began at that point, resulting in ecchondroses.

This, doubtless, explained some of the ridges and spurs which were so ofted found, apparently depending on traumatism. A cartilaginous septum may be bent or dislocated, but never broken, by an external blow of the usual severity. It will always spring back to its original plane, the deviation and ecchondrosis resulting from subsequent inflammatory action.

The chairman announced the death of R. E. Swinburne, M.D., one who had been an active member and who was held in high esteem by all; his death was a great loss to the section; he asked that the section show their respect for the departed in the usual manner.

Hysteric Deafness.

Before commencing a more serious course of treatment, Cipriani advises treatment by suggestion when any unusual case of deafness presents itself, with a record of intermittency. He describes a case of this kind in which he secured permanent cure by simple suggestion, although every indication pointed to rheumatic deafness from exposure, and the patient, a healthy farmer of 44, seemed absolutely free from neurotic tendencies.—*Gazzetta degli Osp.*; *American Medico-Surgical Bulletin.* S. S. B.

Ear Suppositories.

Radlauer, of Berlin, makes suppositories for the ear of cocaine, menthol, resorcin, cocoa butter and olive oil, which also contain a cotton wad to prevent the escape of the fluids as they dissolve. They are recommended highly by Lasser, as they are effectual and save the introduction of the various medicines separately. The patients can insert them themselves, if necessary to save time and trouble in clinics, etc. They are designed to heal inflammations, to soften accumulations of wax, to prepare the ear for operations, etc., and are made in two sizes—for children and adults.—*Therap. Woch.*, December 13; *Jl. Am. Med. Ass'n.*, Jan. 9, 1897. S. S. B.

BOOK REVIEWS.

Atlas of Diseases of the Larynx.—By Dr. L. Grünwald, of Munich. Small octavo, with 100 pages of text, 45 lithographic plates, 107 chromo-lithographic and 25 wood-cut illustrations. J. F. Lehmann & Co., Munich, Publishers; 1897. Price, in cloth and gilt, $2.40. American agents, Lemcke & Buechner, 812 Broadway, New York.

There have been frequent demands for a work on laryngology, with a collection of well-executed illustrations of the pathological conditions of the larynx. This volume, edited by Grünwald, of Munich, and published in the well-known series of Lehmann's Hand-Atlases, is one of the handsomest productions of lithographic art we have yet seen. The 107 colored illustrations are accurate representations of the most frequent pathological conditions met with in laryngology, and present the various lesions in natural colors, with every delicate shading.

Twelve large colored plates, illustrating the microscopic pathology of the larynx, constitute the second part of the volume. The text accompanying the plates is in German; it is brief, and its main purpose is explanatory. The Atlas, however, is thoroughly comprehensible to English readers, and is invaluable to the laryngologist. The moderate price of the volume places it within reach of all.

Deaf-Mutism, a Clinical and Pathological Study. By James Kerr Love, Glasgow, Scotland. With Chapters on the Education and Training of Deaf Mutes by W. H. Addison, A.C.P., Cloth-bound, octavo; 370 pages; 15 illustrations. Glasgow: James MacLehose & Sons; 1896. McMillan & Co., New York. Price, $2.75.

Every aurist should make himself thoroughly familiar with every advancement in the department of otology which is represented by this excellent volume. Deaf-mutism has come to our notice more frequently of late, owing to the progress which is being made in the education of this class of unfortunates. If the medical men of every community would keep themselves better posted on this subject, and cope successfully with the large number of affections which are directly or indirectly responsible for the high rate of deaf-mutism, surprising results may be obtained.

The volume under consideration is a very exhaustive treatise, repsenting in a clear and concise form many interesting features of the pathology of deaf-mutism, and tracing the progress of education and training of the deaf to the present time.

The book is well worthy a careful perusal, and much valuable information may be gleaned.

Injuries and Diseases of the Ear, being Reprints of papers on Otology.—By Macbor Yearsley, F.R.C.S., London. Small quarto, neatly bound in blue and gold, with red and gilt title.
The Rebman Publishing Co., London; 1897. Price, 2 shillings.

In response to the wishes of friends, the author has published this series of interesting contributions in convenient book form. The series of papers are: I. On an Artificial Membrana Tympani; II. Foreign Bodies in the Ear and their Treatment. III. What not to do in Diseases of the Ear. IV. The Use of the Pneumatic Speculum. V. On the Care of the Ear in Children. VI. Aural Reflexes.

The papers are all up-to-date and the subjects are of a character to interest the progressive reader.

Handbook on Laryngology and Rhinology. By Dr. Paul Heymann, Berlin.

Sections 7, 8, and 9 of this excellent treatise on diseases of the nose and throat deal with affections of the pharynx, including chronic inflammations of this region and the post-nasal space; diphtheria, with its subdivisions; and also acute diseases of the nose, with suppurative and ulcerative manifestations of this cavity.

The chapter "der allgemeiam Symptomatologie, der Racbenpremkheibue" is the contribution of Dr. C. Block, of Freiburg. He divides his subject into distinct classes, *i. e.*: 1, disturbances of secretion; 2, sensibility; 3, mobility; 4, taste and smell; 5, audition; 6, voice production; 7, respiration; 8, speech. He dilates upon each of these divisions, and offers many interesting facts observed by himself and other authorities. He calls attention to the possible atrophy of the underlying muscular tissue in cases of marked atrophic conditions. Though this affection is not usually productive of alarming consequences, he mentions an instance in which suffocation followed the entrance of a dried crust into the larynx from the post-nasal region. Reference is made of the importance of bacteriological examination in disturbances of the secretion.

Hyperæsthesia or anæsthesia may be due to central or peripheral lesions, to therapeutic agents, to hysteria, or to general disease.

Emphasis is placed upon the importance of giving due consideration to the pharynx and post-nasal space in patients afflicted with aural disorders. The evil effects of obstructed respiration, and the various reflex neuroses which are apt to follow this condition, are vividly impressed upon the reader.

The treatment of pharyngeal disease may be general and special. The first comprises prophylaxis, dietetic and hygienic measures, climate, hydropathic methods, and general medication. Mechanical, electrical, medicinal, and operative measures constitute the special form of treatment. Post-nasal cleansing is upheld as an important element in getting good results, and as a prophylactic measure in infectious diseases. Gargles are retained as servicable adjuvants, and applications of astringents and alteratives still hold their position in local therapy.

Pharyngotomy is recommended for malignant disease attacking these parts. The danger of cocaine poisoning from submucoid injections is dwelt upon. This local anæsthetic is best applied by means of cotton-armed applicators, or by use of the atomizer. In some instances of cocaine intoxication, inhalations of nitrite of amyl succeeded in bringing about a pleasant recovery.

The galvano-cautery is considered a worthy addition to our armamentarium, and of late electrolysis has found warm advocates, who suggest its application for the removal of septal spurs and deviations. (Our American observers have not attained such agreeable results from its use).

Dr. E. Kronenberg, of Solingen, offers the article on acute inflammations of the pharynx and naso-pharynx. These changes are more frequently met with in individuals who suffer from diseases of the neighboring tissues. Extension by continuity plays an important part in diseases of this locality. Pathological factors in the nose bear a close relationship to inflammatory processes in the pharynx and naso-pharynx. Disturbances in circulation exert a retrograde influence upon the pharyngeal and other structures. Anæmia, chlorosis, cancer, syphilis, tuberculosis, gastro-intestinal disturbances, all are inclined to bear an unfavorable impression upon this vulnerable site. The soft, tender mucous membrane of the naso-pharynx, which at times has been found to be defective in epithelial covering, is supposed to be the entrance for the infectious micro-organisms which create so much general disturbance.

Herpes of the pharynx is said to be due to infection. It may appear in connection with herpes of the lip, or during the course of a pneumonia. If the latter occurs, the vesicles may contain the streptococci-pneumonia. Erysipelas, phlegmon, gangrene (following any of the infectious diseases), and mycosis of the pharynx are described.

Pharyngeal diphtheria occupies almost one-half of the eighth part of this well-written book.

Prof. G. Hoppe Segler, of Kiel, contributes a most interesting monograph. It is a valuable, historical, and a practical addition to existing literature. His remarks upon the pathological anatomy are concise and pithy. He omits the unnecessary, and gives the condensation of an exhaustive research. The various forms of the affection are given, and the many ideas of local treatment are mentioned. Serum injections together with local antiseptics are recommended. The indications are to preserve the patient's strength by tonics and good food, and keep up the heart's action.

The subject of chronic diseases of the pharynx and naso-pharynx has been placed in worthy and able hands. Prof. O. Chiari takes us back to the time of Hippocrates, and with increasing interest gradually leads us on to the present era. Well-executed illustrations explain the text and allow agreeable reading.

The ninth portion of the treatise takes up suppurative and ulcerative diseases of the nose, together with acute and chronic rhinitis. Drs. Hajek, Gerber, and Klempen have given their attention to these diseases. Dr. Block furnishes the treatment of nasal disorders. In suppuration of the nasal cavities, the accessory sinuses should always be examined before a positive diagnosis can be made. Ulcerations of these chambers are either of a traumatic or infectious character. Dr. Gerber describes four forms of acute rhinitis, *i. e.*: thermic, chemical, mechanical, and parasitical. The pathological changes are minutely given.

It is impossible to give deserving prominence to this valuable book in a curtailed criticism. Though we must naturally anticipate a repetition of existing knowledge in a work of this kind, we nevertheless can peruse same, feeling certain that our time will be amply repaid. The current literature has been exhaustively searched by the collaborators, and proper recognition has been given to original thought.

(LEDERMAN.)

[Several Book Reviews and the acknowledgment of Pamphlets received had to be omitted in this issue on account of lack of space.—EDITORS.]

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ORIGINAL COMMUNICATIONS.

A CASE OF ACUTE PRIMARY MASTOIDITIS, BILATERAL, WITHOUT ASCERTAINABLE CAUSE, OCCURRING IN A PATIENT WITH SLIGHT SCLEROSIS OF THE MIDDLE EAR; CURED BY OPERATION.

MARCUS KENYON, M.D.

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While the following case presents many features of unusual interest to the otologist, it will be of still greater interest to the general practitioner, for certain reasons that will be obvious. Similar cases are much more likely to come within his field of observation than that of the specialist; and the main object in offering this report is to contribute toward facilitating a diagnosis which may be fairly termed difficult and very important. The case here presented is by no means unique, but is an exceedingly well-marked example of a departure from the ordinary course of an ordinary disease, viz., chronic catarrhal otitis media of the sclerotic form. An intercurrent, or more properly a reactionary inflammation, the symptoms usually being mild, is frequent in middle ear sclerosis, and many attacks may recur in the same individual. The inflammation may involve the entire mucous membrane of the middle ear, or may be limited to a small circumscribed area, as the fenestra ovalis.

Reactionary inflammation occurring in sclerotic (interstitial) middle-ear affections begins either with or without a known exciting cause, as exposure to cold wind, sea bathing, la grippe, acute catarrhal rhinopharyngitis, etc. There occurs a sudden reversal of the conditions which constitute the basis of the sclerotic process (enfeebled circulation and impaired vitality), hence the term "reactionary" seems most appropriate. This reaction consists in a heightened vascularity and over-activity of normal processes in structures so reduced in physiological capacity that even a normal circulation could not be properly maintained. That such a reactionary inflammation may be chiefly, even entirely, confined to the mastoid process is demonstrated by the case here reported, which may be regarded as typical of its class.

On August 4th, 1896, Annie K., aged 22, applied at Dr. Lewis' clinic, in this hospital, in the service of Dr. Clemens, stating that one month previously she had some pain in the left ear which ceased in a few days, leaving her with moderate tinnitus, vertigo, and impaired hearing. Examination shows a pale, thin, depressed membrana tympani, and some retraction of the manubrium. The chorda tympani nerve with its investment of mucous membrane was plainly visible as a white parchment-like band. The neck of the malleus formed a prominence in Prussak's space. Shrapnell's membrane was pale and shrunken, the striæ prominent. There was no cicatricial tissue nor other evidence of former inflammation, and the patient was positive that she never had ear trouble before. Examination of nose and throat was negative, and the Eustachian tubes were normal. The diagnosis of chronic catarrhal otitis media was made. Treatment, politzerization, and gentle use of the Delstanche rarefacteur.

August 11th.—Complaints of pain in left temple, side of head, mastoid, and ear. The slightest movement with the rarefacteur aggravates the pain in all those localities. Appearance of *mt* and canal unchanged. Slight tenderness at apex of mastoid. Politzerized. Rarefacteur discontinued.

August 13th.—Pain more severe in same locations; also pronounced vertigo, nausea, and vomiting. Pain has prevented sleep, and appetite is lost. Bowels were kept free by use of mag. sulph. At the tip of the mastoid a slightly enlarged lymphatic gland is very tender. Some tenderness above ear, and on posterior part of mastoid. Temperature 100.4°, pulse 110. No change in *mt* or canal. The pain being distributed over an extensive area, and reflex in character, I consulted Dr. Terriberry, who concluded that it was all due to a mastoiditis. The patient was directed to rest in bed, apply three leeches to the mastoid, an ice-bag behind the ear, keep the bowels free, and take pilocarp. mur gr. $\frac{1}{16}$ t.i.d.

August 15th.—Pain somewhat abated, but more paroxysmal in character; radiating to side of head, temple and occiput. Mastoid slightly swollen and tender. A chain of slightly enlarged glands, tender to pressure, extends downwards and backwards, their size diminishing from the mastoid apex. No enlarged glands elsewhere. Vomiting and sleeplessness continue. Temperature 100.2°, pulse 116. Canal normal, *mt* unchanged. The patient was now admitted to hospital, put to bed, four leeches to mastoid, Leiter's cold coil, pilocarp. $\frac{1}{20}$, and quin. sulph. gr. v. t.i.d. The quinine was suggested to eliminate the possibility of malarial hemicrania from the diagnosis.

August 16th.—Great pain in left side of head. Temp. 100°, pulse 99. Two leeches to mastoid. Antipyrine gr. v. every four hours.

August 17th.—Severe left hemicrania, remittent, with acute paroxysms. Slept less than an hour in last twenty-four hours, and strength is rapidly failing. Takes very little nourishment. Later in the day headache increased; the patient evidently suffering greatly. Mastoid now shows nothing abnormal except a very slight blush, and is a little tender on pressure at apex and post. border. The temple and side of head seemed more sensitive to pressure than the mastoid. After consultation with Drs. Van Fleet and Kinney, I decided to operate.

Operation.—The patient being anæsthetized, the usual mastoid incision was made. The periosteum and bone were both normal in appearance. The osseous structure was cancellous and firm until near the antrum, where the bone was red and softened. The mucous membrane was here very red and swollen. The most notable incident of the operation was a sudden welling up of dark blood, almost as if the sigmoid sinus had been opened the moment the chisel entered the large cells near the antrum. The blood sprang up as if under great pressure. The antrum was then freely laid open, and all cancellous tissue, including the apex of the mastoid, was removed. The wound was packed and dressed and patient put to bed.

August 20th.—The temperature was 100° on the 18th, but fell to normal on the 19th, with pulse 80.

September 2d.—Since last date improvement has been uninterrupted. All vertigo, tinnitus, nausea, and vomiting have ceased, and there is but little pain.

September 12th.—Complains of pain in other (right) side of head and region of mastoid. Temp. 99.6°, pulse 95. Examination shows *mt* unchanged, this being an exact counterpart of the left, with the addition of a small calcareous deposit. Canal is normal. Ordered four leeches to right mastoid, Leiter's cold coil, calomel gr. $\frac{1}{8}$ every hour until bowels responded, and hot water douche in canal every three hours, the patient to rest in bed on light diet.

September 13th.—Pain about same. Temp. 99.4°, pulse 80. Ice coil and hot douches continued. K. I. gr. x. t.i.d.

September 15th.—Temp. normal, pulse 80, no pain, but some tenderness on right side of head and mastoid. Ice coil and hot douches discontinued.

September 19th.—Improvement continues. No pain, pulse and temp. normal. Operation wound of left side healing rapidly. Patient discharged, to report at clinic, and use K. I. gr. xviii. t.i.d.

September 24th.—Readmitted to hospital complaining of severe pain in right side of head, mastoid, and infra-auricular region, these parts being sensitive to pressure. Pain prevents sleep. Vertigo, nausea, anorexia, and stiffness of right side of neck. Temp. 100.2°, pulse 110. Four leeches to mastoid, cold coil, hot douches, every three hours. Continue K. I., adding liq. pot. ars. gtt. ij. t.i.d., and rest in bed.

September 25th.—Ice coil increased the pain and hot applications were substituted. The *mt* is now moderately congested, the post. sup. quadrant slightly bulging.

September 29th.—No improvement. Temp. varies from 98° to 100°. The *mt* is considerably swollen, and four hemorrhagic bullæ appear on its surface. Pain is constant, subject to severe exacerbations. Ordered sodii brom. p.r.n., and a cantharides blister to mastoid. All other treatment discontinued.

October 7th.—Pain on right side of head very persistent. Sleeps but little, sedatives giving no relief, and is constantly becoming more emaciated, weak, and pale. Vertigo, nausea and tinnitus are constant. The patient having manifested decidedly hysterical symptoms, Dr. Terriberry was again consulted, who stated positively that the hysteria was merely incidental, and by no means the real trouble. Examination of urine by Dr. Grant gave a negative result.

October 12th.—Pain and other symptoms worse. Mastoid slightly reddened, a little swollen and tender. Vomited to-day. The hemorrhagic bullæ on the *mt* are nearly absorbed, and the membrane has resumed its former pale and sunken appearance. Notwithstanding the favorable appearance of the canal and *mt*, it is apparent that the disease is progressive, and that the patient's vitality is constantly failing. After consultation with Dr. Van Fleet, who fully concurred, I decided to operate on the right mastoid.

October 13th.—*Operation* under ether anæsthesia. There was a fibrous periostitis of lower third of mastoid with periostrum adherent.

Sigmoid sinus very close to canal, angular middle cerebral fossa, skull brachycephalic. All pneumatic structure in the mastoid process was thoroughly removed without any evidence of suppuration being found. The wound was then packed and dressed.

October 16th.—A few hours' earache to-day was followed by a purulent discharge from the aud. canal. On examination a perforation was found in the post. sup. wall of the canal leading into the antrum and operation cavity. The *mt* was not affected. This opening closed up in about ten days.

November 2d.—There has been no pain in head since the operation, and improvement is rapid. Discharge from the hospital to report at clinic.

November 24th.—Operation wound healed, and remarkable improvement in general health. Hearing for watch is $\frac{20}{40}$ by right ear, $\frac{6}{40}$ by left. Whisper heard 18 feet by right, 5 feet by left ear. Hearing power for ordinary conversational voice with both ears at once seems quite normal, and the patient says she hears perfectly well. All other symptoms have entirely disappeared.

Remarks.—A highly sensitive, firmly attached, unyielding mucoperiosteum, lining the mastoid cavities and septa, extensive in area, richly innervated, and with branches of communication to other sensory nerves, are important conditions favoring local and reflex pain during mastoiditis. In the above case a potent cause of acute reflex pain was the exudation pressure in the antrum and large cells of the left mastoid. Hemicrania, so prominent in this case, is the rule in inflammation of the mastoid antrum or atticus tympanicus. Fibrous periostitis and myringitis hemorrhagica, due to the reactionary inflammation of sclerosis, are very painful affections. Vertigo, nausea, and vomiting result from irritation, hyperæmia, inflammation, exudation, hemorrhage, etc., involving the semicircular canals or ampullæ. Tinnitus is due to the same causes acting on the labyrinth (the cochlear portion), or to anomalies of the sound-conducting apparatus—sclerosis in particular. Inanition and general prostration were induced by the constancy and severity of these symptoms, which interfered with nourishment, sleep and exercise. Anæmia and a cachectic hue developed, with emaciation, and the facies betokened great suffering.

Regarding the final outcome, if not relieved by operation, it is apparent that this type of acute mastoiditis is a disease of serious import. With the invasion of pus-forming cocci a reactionary inflammation of the mastoid cavities would at once assume a formidable aspect, threatening life itself. No doubt such an invasion does occur in many instances, a purulent mastoiditis supervening. These considerations teach us that operative interference should be as complete as possible. Nothing short of a radical chiselling away of the pneumatic structure of the mastoid will suffice to give complete relief, or afford probable immunity from severe future attacks. In the case here reported, even with no pus formation, the disease advanced to such a point as to give rise to anxiety because of its progressive and obstinate nature, and the marked change for the worse in the patient's physical condition. Perhaps I may be pardoned for suggesting that the symptom-complex presented, with the negative appearance of the auditory canal and *mt*, as well as of the mastoid, was well calculated to raise suspicions of some severe form of intracranial lesion, although certainly none existed. It is certain that many cases of cerebral abscess progress to a fatal issue with symptoms far less pronounced, though often similar to those which obtained in this case. Perhaps this type of disease will be well observed and classified in future, for otology is surely undergoing remarkable development and progress. Politzer,* speaking of sclerotic middle ear disease, says: "As Von Tröltsch correctly remarks, there is no doubt that, through extension of our anatomical knowledge, this interstitial form of inflammation may attain to a separate position in the series of diseases of the ear."

I am under many obligations to Dr. James B. Clemens for valuable suggestions and assistance during the patient's illness and at the last operation.

Empyema of the Maxillary Sinus in Children.

Dr. E. J. Moure states that maxillary sinusitis in very young children is rare (*Rev. Hebd. de Laryng.*, Oct. 24th, 1896). The few cases reported are those of classic empyema, with deformity of the face and the orbit. Besides acute sinusitis, there exists, especially in more advanced childhood, the more insiduous forms which are associated with the evolution of second dentition, and in which the surgical treatment is more delicate than in the adult.

Under the age of seven years, the author limits himself to using nasal douches and sprays of nitrate of silver. In the more advanced forms, with polypoid degeneration of the mucous membrane, he is often compelled to open the sinus through the inferior meatus and practice irrigation. In some cases it is necessary to extract a molar in order to make an alveolar opening.

Dr. Moure reports a case of a girl of 11 years, in which an empyema of the maxillary sinus existed, which had to be treated by means of an alveolar opening. W. S.

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* *Diseases of the Ear*, 1894, p. 275.

THE RELATION OF THE TEETH TO THE EAR, NOSE AND ANTRUM.*

BY DR. O. F. GAMBATI, HOUSTON, TEX.

The oral specialist is closely associated with the ear and throat specialist. In many cases which demand the attention of the laryngologist and otologist, the teeth form the *causus morbi*, which must be relieved by the dental surgeon before good results are obtained. It is as yet a disputed fact as to whether nasal or dental disease is the greater etiological factor in empyema of the antrum of Highmore. But it is undoubtedly a fact that a great many cases are of dental origin. This statement will be substantiated by the experience of every rhinologist present, who must have frequently had occasion to observe the direct connection between them.

It has recently been suggested that not only is antrum disease frequently due to dental origin, but also the reverse—that an empyemic condition of the antrum sets up a pathological condition in the teeth; and when it is remembered that the roots of the teeth sometimes project into the maxillary sinus, and are separated only by the mucous membrane, this complication is not hard to understand.

An intelligent understanding of the relation of the teeth to the ear, nose and antrum requires an appreciation of the anatomical and physiological relation of the mouth to these parts. Anatomically and physiologically considered, no other portion of the human organism offers such a complex association of tissues as those which compose the mouth; no other organ has such diversified physiological functions, and such significant and systemic relation. The wide circle of its anatomical and physiological relations suggests an equal circle of pathological complications, and indicates the diversity as well as the gravity of the disturbances which depend upon the pathological conditions of the oral cavity.

The terminal distribution, in and about the mouth, of the sensory and motor branches of the sensitive trigeminus, and its association with the great sympathetic, connects the teeth with the entire organism, and explains many of the reflex disturbances which develop from this region.

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*Read before the meeting of the Southern Section of the American Laryngological, Rhinological and Otological Society at New Orleans, March 3d, 1897.

So important to the whole organism is the proper development of the teeth that the dentist not only watches over the eruption and development of the deciduous teeth in infancy, but even goes back to its intra-uterine existence. The prospective mother is instructed as to her diet; which should be of those cereals containing the phosphate of lime, so as to supply the organism with proper material for building up this important structure.

The manifestations of reflex excitability due to dental irritation are numerous and varied. Earache is often associated with teething, and many inflammatory conditions of the ear are traceable to this region. The experienced otologist, therefore, never neglects a careful examination of the teeth before forming his final diagnosis.

The facility with which an irritation originating in the mouth may be continued to the ear and thence to the brain can readily be understood, when we remember the intimate relation between the parts concerned.

Cancrum oris originating from the teeth is sometimes fatal by reason of its extension to the pharynx. An alveola abscess in the lower jaw may, by extension, form a sinus in the throat. The following case will illustrate the latter complication:

A patient, æt thirty-five years, suffered from a catarrhal affection of the throat, which had been treated for six months without success. He suffered from no pain which he could refer to dental origin, and thought that his disease was limited to the throat.

This patient called at my office to have his teeth examined, and I found a lower second molar on the left side, of a dark-bluish color. On tapping this tooth with an instrument, he said that he could feel the sensation extending down to his neck. I opened the nerve chamber, and the mephitic gas that escaped was very offensive. I immediately extracted the tooth, and found an alveola abscess nearly three-fourths of an inch long. Since the extraction of this tooth the patient has complained of no irritation or discharge in his throat, and this was still the case when I last saw the patient, two years later.

An abscess of the superior third molar may discharge into the naso-pharyngeal cavity and simulate a post-nasal condition. To illustrate this I will give you the short history of such a case occurring in my practice. A woman, twenty-seven years of age, had been annoyed for a number of years by pus dripping behind the uvula, which the patient thought was due to nasal catarrh. She was treated for this, however, without obtaining relief. Some time later the patient consulted me in regard to having some dental work done, and incidentally mentioned this condition. On examining the oral cavity, I found the third molar missing. I enquired whether she had ever had this tooth extracted; to which the patient gave a negative reply. I then asked permission to lance the gum over the unerupted tooth, and was rewarded by finding the tooth impacted. Chloroform was then administered, and the tooth extracted. A large abscess was found on the apex of the tooth, and from that time her nasal trouble ceased. This apparently was a case in which the abscess discharged into the nostril without involving the maxillary sinus. Had this been affected it would be difficult to understand how the nasal discharge ceased without proper treatment of the antrum.

The following case is an illustration of otalgia of dental origin: A patient, æt twenty-six years, had suffered from earache for three months, relief being obtained only by morphine. As the treatment directed to this organ afforded no relief, the physician finally referred the case to me for examination of the teeth. I found the lower third molar on the left side lying horizontally in the jaw, with its masticating surface against the posterior surface of the second molar. This tooth was extracted, which was followed by immediate and permanent relief of the earache.

Not only may there be otalgia, but acute inflammation of the middle ear, of a catarrhal or purulent character, may result from dental irritation. Deafness, facial spasms, trismus, laryngeal cough, etc., may all be due to pathological conditions of the teeth.

Diseased conditions of the nose and throat may, on the other hand, have their influence on the development of the teeth. You are all familiar with the high-arched palate and irregular teeth due to chronic obstruction of the nasal or naso-pharyngeal cavity.

These cases which I have had the privilege of bringing to your attention will illustrate the fact, that the specialist should not be too narrow in his views, and should not limit his attention to one particular class of diseases without remembering the influence of the proximate and even distant organs on the pathological condition which he is treating. The specialist should be so only in limiting his treatment to a certain class of diseases; his knowledge should extend to every branch of human anatomy, physiology and pathology. In this way only will he achieve results which will be a credit to his specialty and to his profession.

I. TWO CASES OF FOREIGN BODY IN THE TRACHEA; TRACHEOTOMY; RECOVERY.

II. CICATRICIAL ATRESIA OF BOTH CHOANÆ.

BY AUGUSTUS McSHANE, M.D.

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It would be difficult to conceive of a more appalling accident than the sudden entrance of a large foreign body into the larynx or trachea of a perfectly healthy subject. The immediate change from a state of cheerfulness and comfort to one of extreme anxiety and distress fills the spectators with dismay, while it tortures the patient with one of the awfullest sufferings that can be experienced—dyspnœa. As long as the human race has existed, doubtlessly there have been unrecorded and numerous cases in which liquids or solid bodies lodged in the larynx, or passed down into the trachea; but the modern literature of the subject is considerable, as we may see from the references by John O. Roe, M.D., in his excellent article in "Burnett's System of Diseases of the Ear, Nose and Throat." Large as the literature may be, it will bear a little augmentation in the way of clinical facts, though no features of extraordinary or unusual interest were developed in connection with the two cases that came under my observation in the clinic of Dr. A. W. de Roalds at the Eye, Ear, Nose and Throat Hospital.

The first case was a little boy, 23 months old, from Poplarville, Miss. On October 10th, 1896, at 8:00 A.M., the child was throwing corn to the chickens, and he amused himself by placing three grains of corn in his mouth. His sister, older than himself, said that he suddenly began to cough violently. The paroxysms were so severe that he could not stand. A grain of corn had evidently gone down his wind-pipe. The coughing and choking became worse, and the family physician, Dr. J. M. Smith, was called in, but his efforts brought no relief. The child's sufferings continued for about two hours, and then suddenly ceased, and he went back to his play. He remained cheerful from 10:00 A.M. to about 5:00 P.M., when, as he was nursing, he began to choke and breathe with great difficulty. After exhausting all available means, Dr. Smith advised the parents to bring the child to the city, which advice the parents followed. They arrived at the hospital on October 12th, 1896, at about noon.

I saw the child, with Dr. C. J. Landfried, at about 5:00 P.M., and found his breathing so much embarassed that he could not have lived more than two or three days longer if let alone. There was loud rattling all over the chest; bronchitis had set up, but as yet no consolidation of lung could be made out. When the stethoscope was applied over the trachea, a very loud sound could at times be heard when the child coughed, which we attributed to the impact of the foreign body against the closed larynx. A deep inspiration would draw the offending body deeply down in the trachea. His temperature was 103° in the axilla. He was very restless. A laryngoscopic examination threw no light on the subject, for only an imperfect view of the larynx could be obtained, and no glimpse below the level of the vocal cords was possible, as the child struggled and coughed, and the examination worried him.

As the history of the case pointed to a foreign body in the trachea, and as the little patient was growing almost hourly worse, we decided to perform tracheotomy, which was done at 7:30 P.M. the same day. The instruments and hands of the operator and his assistants were rendered aseptic, as well as the field of operation. All of our precautions, however, were nullified by the expulsion from the trachea of a quantity of muco-pus, which was certainly not free from bacteria, and to which I attribute the considerable amount of local reaction that was observed in the second case. Chloroform was the anæsthetic used. The usual incision in the median line was made and the structure divided, layer after layer. The isthmus of the thyroïd body was dissected up, ligatured on either side, and divided in the median line. At no stage of the operation was the hæmorrhage abundant. With the thyroid out of the way, Dr. Landfried steadied the trachea with a tenaculum, and I made an incision involving about the upper three rings of the trachea. A Delaborde dilator was inserted into the wound and sutures passed through the edges to keep it open. The anæsthetic was suspended to allow the sensibility of the trachea to return, in a measure. No foreign body lay immediately in view; a probe was passed down into the trachea for a short distance, and the tickling set up a violent spell of coughing, during which the grain of corn was expelled.

The wound was then cleansed, and the edges of the tracheal incision were brought together with cat-gut sutures; the rest of the wound was closed with four cat-gut sutures. A wick of iodoform gauze was left in the wound to faciliate drainage and prevent cellular emphysema, which may ensue when the cutaneous incision is very tightly closed. No tracheal tube was used, because the relief to the breathing after the removal of the grain of corn was immediate and complete. Gave 30 drops of paregoric every 3 or 4 hours to quiet him.

On the morning after the operation the patient's temperature was 100°. He nourished well, rested well, and coughed very little. The wound was redressed on the third day, and adhesive strips applied to keep the edges together, as the sutures were softening and giving away. On the fifth day his parents brought him back home. The subsequent history was uneventful; and Dr. Smith, who afterwards dressed the wound, wrote that on October 26th he discharged the case as cured. The bronchitis soon got well.

It may be interesting to note another case in the same family. A cousin of our little patient, about the same age and living in the same village, drew a grain of corn into the trachea about six months before our patient acquired his grain of corn. The same physician, Dr. J. M. Smith, advised the child to be brought to the city, where it was seen by Dr. De Roaldes. He advised tracheotomy without delay; but the parents demurred, returned home, and the child died in less than a week. With this case still fresh in their minds, it was not difficult to obtain the consent of the parents of our little patient to perform tracheotomy.

Our second case was a little girl, age 3, who inhaled a cotyledon of a peanut (ground-pea, goober, *pistache*), on Nov. 18, 1896, at dusk. Her younger brother had the peanut in his hand; she grabbed it and laughed, and tried to chew the peanut while laughing. The ingoing current of air drew the peanut into the trachea. She immediately had violent spells of coughing and dyspnœa, which lasted until brought to the hospital on the following morning. The breathing was much more embarrassed than in the other case, and there was a decided stridor on inspiration. The same hammering could be heard when the stethoscope was placed over the trachea. Temperature, $100\frac{2}{5}$°.

A laryngoscopic examination revealed considerable swelling of the mucous membrane, just below the vocal cords, which, I thought, explained the stridulous inspiration. After consulting with Dr. Landfried, tracheotomy was performed, as soon as the instruments could be made ready, with the assistance of the resident staff. The operation was in the main a repetition of the previous one; the thyroid body was ligated and divided in the median line, and the upper three rings of the trachea were cut through. The edges were held open by silk threads, the chloroform was suspended, and the trachea tickled with a blunt probe. The first efforts at coughing brought the foreign body into view, but it was quickly drawn out of sight again. The tracheal wound, which seemed to be too small for the object, was enlarged; and another coughing spell forced it into the opening, and it was lifted out.

When the tracheal wound was momentarily closed, the child's breathing was still very labored. It was necessary to insert a tracheal tube, which was removed on the fourth day. The tracheal wound could not then be sutured, and it was allowed to close undisturbed. No inconvenience resulted.

The child must have been strumous, for the suppuration in the wound was at all times more than we would have expected in view of the precautions taken and careful nursing the child received. The temperature became normal two days after the operation. Some days later, one of the sutures (silk) tied around the thyroid isthmus came away; that would help to account for some of the pus. The pus set up a very intense and obstinate dermatitis on the front of the neck, for which she was afterwards referred to Dr. Isadore Dyer, under whose care the cutaneous complication quickly healed.

The patient was under observation for about two months. She soon recovered from the tracheotomy proper, but the suppuration in the superficial parts of the wound rendered attention necessary for some time. Her breathing lost its stridulous character when it was quiet; but when she cried there was always a suggestion of stridor. After her neck got well, I examined her larynx carefully; there was no stenosis there or in the trachea as far down as the obliquity of the tube would permit a view.

II.

Bony occlusion of one choanæ is not so very rare. I have recently operated on such a case. But I have not yet seen mention of a case in which cicatricial tissue caused atresia bordering on occlusion in both choanæ. Zuckerkandl, in his "*Normale und Pathologische Anatomie der Nasenhöhle und ihrer pneumatischen Anhänge,*" 1892, in his cases of intra-nasal synechiæ, speaks of a case of almost complete obliteration of the olfactory region, but does not describe any that compares with our present case in extent and completeness of obstruction.

The patient is an Italian woman, age 30, in good general health. Up to her twentieth year her nose was as free as anybody's. She had some sort of "catarrh," which made her nose stuffy, and ended in the extreme atresia, from which she now suffers. The cause of the "catarrh" has not been clearly made out. The slowness of the attack excludes diphtheria, and I can only attribute it to syphilis, though the history is unsatisfactory. On inspection anteriorly, I saw a small septal spur on each side, which prevented a good view of the deep part of the nasal cavities; and even when the turbinated bodies were shrunk up with cocaine nothing definite could be made out, except that it was impossible to see through into the pharynx. A probe could not at first be passed through the nose into the throat; after a little manipulation and cocaine, the probe was passed through the left side, but not the right. When first seen, she could force a little air through the left nostril, but not through the right; after probing, a little air was squeezed through the right nostril.

The palate-retractor was applied, and an examination of the post-nasal space made. The choanæ were filled up with a pinkish tissue, funnel-shaped or depressed in the centre, and completely shutting the turbinated bodies out of view. A probe passed through the stricture could be plainly seen in the post-nasal space. Her hearing was not impaired.

The patient begged to be relieved, for the constant mouth-breathing was a source of great discomfort.

In order to get at the stricture, the septal spurs had to be removed. One was accordingly sawed off. The question of operation on the stricture itself next presented itself. A confrére had previously incised it, but the profuse hæmorrhage caused him to desist. I decided to use the electrolytic needle in the centre of the cicatricial mass, produce a slough, and then keep the opening patulous by means of plugs of cotton gauze, celluloid, or any suitable material.

The narrowing of the anterior part of the nasal cavity permitted the insertion of only one needle, to which the positive wire was attached; a dispersing electrode was held in one hand. The stricture was well cocainized, but patient could not stand more than five milliamperes, and that only for about ten minutes.

In a few days, the slough came away, and the patient could blow through that nostril better than before.

She is still under treatment, and it will be a long time before anything like permanent relief can be looked for. A supplementary report of the case will follow.

Pseudo-Pertussis from the Presence of a Foreign Body in the Larynx of a Child of Five Years; Expulsion of Foreign Body; Cure.

Dr. E. De Pradel reports the case of a child who had swallowed a pebble the size of a bean, and developed, two months afterward, a cough which resembled whooping-cough, so that this diagnosis was made (*Archiv. Int. de Lar., Rhin. et Otol.*, No. 7, 1896). Four months afterward, during a severe paroxysm, the stone was coughed up, and the child was well. The author believes that the foreign body, during this period of time, had been located in one of the ventricles of the larynx, although it could not be found on laryngoscopic examination.

W. S.

DISEASE OF THE INTERNAL EAR. ANALYSIS OF 351 CASES AS REGARDS PROGNOSIS AND TREATMENT.

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In the last twenty-five years the science of otology has made noteworthy progress. With the advent of men like Politzer, Gruber, Schwartze, Moos, and many others, with their contribution to the pathology, diagnosis, and treatment of ear diseases, the science has had a new birth. To-day we are in a position to successfully treat most conditions of the external and middle ear. Our knowledge of involvements of the mastoid and of intercranial complications is to-day quite accurate, and the surgical procedures to relieve such conditions in general well recognized. The advance in knowledge, however, of conditions affecting the internal ear has not been at all commensurate. The reason for this is easily seen; the internal ear is not open to inspection as is the middle ear. Any trustworthy data must be derived then from post-mortem examinations. Such examinations up to the present have been few. As regards the treatment of these conditions, it is clearly recognizable that with any considerable amount of destruction of the delicate structures of the cochlea, no possible remedy exists. We believe, however, that in a certain proportion of these cases such destruction does not occur, at least at the outset, and that proper treatment, at all events theoretically, would be beneficial.

With a view to ascertaining, if possible, what success has attended our treatment of these difficult conditions in the past few years, the writer has been permitted, through the kindness of Dr. J. E. H. Nichols and Dr. James B. Clemens, to examine and tabulate the records of diseases of the internal ear treated in their clinics during the years of 1894 to 1897. Before proceeding, however, to give the result of these investigations, it may be well to allude in a few words to the more common causes of diseases of the internal ear. These include:

I. Disturbances of circulation in the labyrinth, as anæmia, hyperæmia, and hemorrhage, infectious diseases—syphilis, mumps, leukæmia, influenza, measles, scarlet fever—rheumatism, trauma, professional occupations, inebriety, senile changes.

II. Catarrhal, purulent, or sclerotic changes, involving the middle ear primarily. The condition known as Ménière's disease, and the more common infectious diseases, as scarlet fever and diphtheria, involving both middle and internal ear simultaneously. Certain drugs, noticeably quinine and salicylic acid, should be mentioned. Finally, diseases of the acoustic nerve, as the result of meningitis, tabes, intercranial neoplasm, rarely occur.

Very briefly now in reference to diagnosis. The three salient subjective symptoms of disease of the labyrinth are deafness, usually excessive, tinnitus, which may cease after a time, and vertigo. Objectively the diagnosis is based in primary disease of the labyrinth on the absence of all pathological conditions in the middle ear, and as the result of the examination by means of a tuning-fork. Aerial condition is always preserved and in excess, while bone conduction is reduced or lost. (Rinne's law). This latter is of doubtful value, as unfortunately in a large percentage of cases of disease of the middle ear—46 to 77 per cent.—the same condition exists. Still greater weight is to be attached to the deductions or loss of hearing for the high notes in the tuning-fork series, especially for c^{iv}, low C in pure internal-ear disease being relatively little affected. Thus, in a series of 188 cases recently studied by the writer (*Archives of Otology*, January, 1897), representing all degrees of involvements of the internal ear, low C averaged for A. C. 17½ seconds, and B. C. 9⅔ seconds; for c^{iv}, A. C. 5⅔ seconds, B. C. 2 seconds, or expressed in percentage, 43 per cent.; A. C., 60 per cent.; B. C. for the low fork, as against 28 per cent. and 16 per cent for the high fork. Weber, Gelle, and Bing, have also formulated observations which are helpful in certain cases. With all our improved methods of diagnosis, however, we are undoubtedly still liable to error in certain cases. This, without doubt, is true in the statistics herewith presented. Authorities differ as to the frequency of involvements of the internal ear. Dowling (*St. Louis Medical News*, 1888) estimates 4 cases in 1,000. In 2,200 cases treated in the clinic of Dr. J. E. H. Nichols, there were 217 classified as diseases of the internal ear, *pure* or *mixed*. In the service of Dr. J. B. Clemens, out of 1,700 cases, 127 were reported similarly affected. From the two services where a similar class of patients presented itself, and like methods of diagnosis were employed, there were, therefore, out of a total 3,900, 351 cases of disease of internal ear, *pure* or *mixed*, or 11 per cent. Of the 117 cases, service of Dr. Nichols, reported as primary disease of the internal ear, 13 alone were one-sided; among them 12 were cases of presbyacousis and 97 were mixed. In the combined services of the 351 cases, 176 were mixed. Omitting the

12 cases of presbyacousis above-mentioned, 163 cases of pure internal ear disease remain for investigation. Ætiologically these 163 cases were divided as follows:

Tumor of the brain	1
Hemorrhage	7
Syphilis	17
Diphtheria	1
Typhoid	3
Quinine poisoning	1
Congenital	1
Inebriety	3
Malaria	1
Rheumatism	3
Sclerosis, involving both middle and internal ear	11
Middle ear disease, with sudden extension into labyrinth	1
Middle ear, not sclerosis	9
Scarlet fever	9
Meningitis	8
Syphilis (mixed)	1
Sclerosis (pure)	20
Measles	3
Ironworker	2
Anæmia	5
Hyperæmia	1
Boilermaker	2
Influenza	3
Telephone	1
Ménière's disease	6
Presbyacousis	1
Traumatism	7
Functional	3
Purulent otitis media	2
Cause not discovered	31
Unclassified	11

It will be seen that among these diverse causes infectious diseases take the most important place, and of infectious diseases syphilis is most common. More potent, however, than all the other causes combined, if we consider the 166 cases reported as mixed disease, is the condition popularly known as dry catarrh, which in the above classification is accountable for 20 cases, and 11 others designated as mixed in the above table doubtless belong to the same condition. To this group, moreover, most of the 31 cases of which the cause could not be discovered must be assigned.

Result of Treatment.—Of these 163 cases of pure internal ear disease (so diagnosed), 19 were cured or relieved. The remainder either underwent no treatment or showed no improvement. These 19 cases were divided as regards cause as follows:

Tumor of the Brain 1.—Vertigo relieved by iodide of potash and strychnine.

Syphilis 6.—Relieved by iodide of potash.

Sclerosis 1. Relieved by electric masseur.

Ménière's Disease 2.—(*a*) Relieved by iodide of potash and Delstanche-masseur. (*b*) Electric masseur.

Anæmia 1.—Relieved by tonics.

Hemorrhage 1.—Relieved by iodide of potash.

Mixed 1.—Relieved by iodide of potash.

Functional 2.—(*a*) Relieved by tonics. (*b*) Treatment to middle ear.

Unclassified 4.—(*a* and *d*) Relieved by treatment to middle-ear. (*b* and *c*) Relieved by iodide of potash.

To resume: in 12 out of 19, iodide of potash relieved.

Two—Electric masseur.

Two—Internal treatment (tonics).

To render, if possible, the study of these cases more complete, an examination was made of current medical literature through the files of the *Index Medicus* and of the *Archives of Otology*. This adds to the number of cured or relieved cases the following:

I. Baron, *British Medical Journal*, 1894, reports one case relieved out of four treated by pilocarpin. After thirty-five injections vertigo ceased and hearing improved.

II. Garnault, *Journal of Laryngology*, 1894, one case of sclerosis where tinnitus was relieved by removal of stapes.

III. Baumgarten, *Zeitschrift für Ohrenheilkunde*, 1891. Case of internal ear disease in the mother contracted from child suffering from scarlet-fever; relieved by injections per tubam of potassium iodide, 0.2–10.0, and cocaine, 0.5–10.0, equal parts.

IV. Smith, *Medical and Surgical Reporter*, 1891, reports 47 cases treated with pilocarpin. He obtained good effects in certain instances, especially in cases of specific origin. He advises its use only in tinnitus of recent date.

V. Dowling, *St. Louis Medical News*, 1888, a case of Ménière's disease relieved by strychnine pushed to point of tolerance.

VI. FIELD, *British Medical Journal*, 1889, three cases of excessive deafness cured by pilocarpin injections.

VII. MCCALL, *Cincinnati Lancet Clinic*, 1890, Ménière's disease relieved by chloral and bromide of potash.

VIII. MOOS, *Archives of Otology*, 1894, scarlet-fever relieved by pilocarpin.

IX. POLITZER, *Wien. med. Blätter*, 1885, 17 out of 65 cases treated by pilocarpin injections relieved. Recommends this treatment especially in syphilitic cases and in cases of recent origin.

X. KOSEGARTEN, *Archives of Otology*, 1888. Used pilocarpin in 30 cases with benefit; number benefitted not given.

Here is a total of 26 cases cured or relieved, not including the cases of Smith and Kosegarten, where the number is not accurately stated.

In 22 out of 26, pilocarpin was employed; in 1, strychnine; in 1, chloral and potassium bromide; in 1, tubal injections of iodide of potash and cocaine; and in 1, stapelectomy.

CONCLUSION.

From the analysis of these various cases, what deductions are we at liberty to make?

I. *About Cause.*—The most common cause of affections of the internal ear is undoubtedly that condition known as sclerosis or dry catarrh.

Through the investigation of Politzer and others this is now known to be chiefly an anchylosis of the stapes in the oval window, and in bony alterations in the structure of the middle and internal ear immediately adjacent. This condition, as Bezold has shown, is much more common than formerly supposed.

It is equally true, however, that a considerable proportion of involvements of the internal ear spring from a simple hypertrophic catarrh of the middle ear.

As regards acute conditions, the infectious diseases seem to play the most important part.

Syphilis presents itself in one of three forms: (*a*) suddenly without apoplectic seizure; (*b*) suddenly with apoplectic seizure; (*c*) gradually and insidiously—this last is far the most common form.

Ménière's disease seems to be still a ground for conflict of opinion as regards its origin. Politzer insists, in his *Treatise on Diseases of the Ear*, that it is caused by an exudate into the internal ear, with no previous involvement of the middle ear; while Gradenigo in Schwartz's system makes it depend on a previous involvement of the middle ear. In either case it does not occur very often in this series of cases.

II. *Diagnosis.*—With our perfected methods of diagnosis we are still liable to error in a certain number of cases, and exceptions occur not rarely to the common rules. In this connection it is of interest to refer to the case of brain tumor, previously cited, where the post-mortem examination permitted an accurate investigation of the labyrinthine symptoms.

It is taught by Politzer, Gradenigo, and others, that in diseases of the auditory nerve a break in the continuity of the musical scale is characteristic. The history of this case is briefly as follows:

Otto K., age 53 years, presented himself at clinic, February 1, 1894. He stated that four days ago he suddenly lost hearing in right ear—no previous attack. A self-test showed watch in contact, formerly two feet or more; no specific history. Examination of M. T. negative. Watch contact. Voice two feet. Tuning-fork—c $\frac{23}{18}$, c_2 $\frac{26}{10}$, c_2 $\frac{35}{20}$, c_3 $\frac{15}{4}$, c_4 $\frac{11}{3}$.

The left M. T. was sclerosed and drawn in. Watch, seven feet. Voice, thirty feet. Tuning-fork—c $\frac{45}{20}$, c_1 $\frac{23}{10}$, c_2 $\frac{55}{13}$, c_3 $\frac{25}{9}$, c_4 9.

Patient complained of vertigo and tinnitus. Diagnosis was made of labyrinthine disease. The patient was treated with blisters, strychnine, and iodide of potash, and on December 18, 1894, reported tinnitus and vertigo gone.

Test at that time showed—watch $\frac{30}{60}$, voice fifteen feet plus. Tuning-fork—c $\frac{38}{27}$, c_1 28, c_2 $\frac{50}{10}$, c_3 $\frac{16}{6}$, c_4 $\frac{15}{10}$.

Patient died on February 8, 1895.

The autopsy revealed a tumor in the upper temporo-parietal region extending forward to the left, probably sarcoma.

Paresis of the right side.

It will be noticed that, instead of any break, the series was well preserved. Bone conduction was by no means lost for any fork, and for the high fork was actually better than in the left ear. What is still further interesting, his symptoms were relieved and hearing restored, in spite of the fatal termination.

We will refer still more briefly, as of possible interest, to the tests in a case of hemorrhage of the labyrinth, seen three months after onset.

C. F., age 55, presented himself with the history that, in an attack of bilious fever, while vomiting, felt something break in the ear—great loss of hearing. Tinnitus and vertigo at once ensued, and have continued since. Here watch and acoumeter gave no response; voice, 3 inches; tuning-forks—c $\frac{12}{7}$, c_1 $\frac{0}{3}$, c_2 $\frac{0}{0}$, c_3 $\frac{5}{0}$, c_4 $\frac{6}{6}$; Weber in the better ear. Response to Galton whistle normal.

This patient greatly improved under the use of iodide of potash. Here will be noticed virtual destruction of hearing, the loss of response of the intermediary forks, but the preservation in reduced degree of the high and low forks alike for A.C. and B.C.—and, what is most striking, that in so typical a case as this the response for Galton's whistle was perfect.

III. *Prognosis.*—It must be confessed that, except in syphilitic conditions, the prognosis of conditions of the internal ear, primary or secondary, as shown by the results in the above cases, is not very encouraging.

Out of the 163 cases reported, 19, it will be recalled, were cured or relieved—roughly about 12 per cent. Of these 19, 6, or one-third, were certainly specific, and 4 were possibly so, or more than half.

In the cases investigated it will be noticed that no study has been made of the 176 cases of mixed disease. It can with great confidence, however, be asserted that the result of treatment in these conditions was alike discouraging.

IV. *Treatment.*—Finally, what can we learn as regards the plan of treatment in these conditions? In the report of successes secured by the several writers mentioned above, pilocarpin seemed to play the most important rôle. The only drug which seemed to be attended with any good results, in the 19 cases just mentioned, was iodide of potash. Treatment to the middle ear was beneficial in certain instances.

Beyond question, as regards infectious disease, the proper course is a prophylatic one, including careful attention to the mouth and nasopharynx. In the case of actual occurring hemorrhage or effusion, the most absolute freedom from all noise is to be insisted on. Local depletions and counter-irritations by means of blisters to the mastoid are indicated. Cardiac sedatives, and purgatives are in order. On the cessation of the acute symptoms, injections of pilocarpin are to be begun. The status of this drug, even after the number of years it has been used (12 years), has not been fully determined. Politzer, as noted above, advocated it, principally for specific conditions; but others have gone further, and employed it in all conditions, with varied success. Unquestionably its greatest value is in the acute conditions.

Politzer recommends ten injections of ascending doses, of a 2 per cent. solution, given daily; if, at the end of this time, no benefit is obtained, the drug is to be stopped. Other observers have claimed that this time was altogether too short, and that their success has been achieved by continuing its use for at least seven weeks.

The case of Moos noticeably shows that it is of value in just such cases as are under consideration. In any case, we are justified in giving the drug a fair trial, but it is always to be followed by iodide of potash in full doses.

As regards the chronic conditions, our prognosis is well-nigh hopeless, and our treatment must consist, if we would even attempt any cure, in the use of internal medication, especially the use of the two drugs just mentioned. Surgical interferance for these chronic conditions, such as removal of the stapes, as practised by Blake and Jackson of Boston, has proven of no avail, and often aggravates the symptoms.

Mention must be made of the electric masseur employed by Dr. Clemens with benefit in certain cases. The principle is one of automatic massage to the drum and ossicles, very rapidly repeated by means of an electric current. Reference also must be made to the educational methods recently brought forward by Urbantschitsch, and used by him with benefit in a number of cases of apparent deaf-mutes.

To the large group of cases known as mixed, a trial of treatment to the middle ear by vapors, etc., is certainly warranted. And in certain cases a relief of the atmospheric pressure in the middle ear will greatly ameliorate tinnitus and vertigo, at least temporarily.

Any marked improvement or cure, however, can neither be expected nor encouraged.

117 East 40th St.

Otalgia as a Manifestation of Influenza.

Dr. D. Kaufmann, Vienna, says in some cases presenting this symptom, the individuals had moderate fever (*New York Medical Journal*, Feb. 13th, 1897); but the aural pain was intense, and lasted from three to nine days. No evidence of an inflammatory process could be observed on examining the ears. The author believed these cases to be examples of pure otalgia, constituting an abortive form of epidemic influenza. M. D. L.

REMARKS ON INFLATION OF THE MIDDLE EAR.

BY THOS. F. RUMBOLD, M.D., ST. LOUIS.

We employ middle-ear inflation to accomplish two purposes: one to remove abnormal secretion from the Eustachian canal; the other to cause, by passive motion, the return of the abnormally-placed ossicula auditus to a more normal position.

UNPLUGGING THE EUSTACHIAN TUBE.

The principal object of air-inflation is to drive a collection of air-obstructing, abnormal secretion that is lodged in the Eustachian canal into the middle-ear. If this irritating plug could be removed without driving it into the middle-ear it would be far better; but this is impossible. The injury that this plug produces in the middle-ear is far less than in the Eustachian tube. In this canal it not only helps to maintain the Eustachian mucositis, but does far greater injury by preventing the air from passing up the canal to the middle-ear, to the positive injury of the whole organ of hearing. In the middle-ear, especially in the case of the young, the secretion is soon absorbed; while in the canal it by itself induces and maintains an active congestion, by causing the air in the middle-ear to become abnormally rarefied, thus acting as an air-pump in drawing blood to every portion of the organ. This is a very serious condition, and should be relieved as soon as possible.

It is evident that as soon as the treatment of the case progresses so far as to cure the Eustachian mucositis, so that there is no excess of mucus in the canal, then the air-douche, as it is frequently called, should be discontinued, because in the young especially there is nothing to be gained. Not only that, but injury would assuredly be done, for the reason that the normal air-density in the middle-ear is that of slight rarefaction. It is an axiom in medicine never to thwart the efforts of nature; and nature, in her endeavor to give us good hearing, ingeniously rarefies the air in the middle-ear, not only of man, but of all animals that have Eustachian tubes. Even in cases of perforation of the membrana tympani, if this canal is free of muco-purulent secretion, inflation will be of no benefit, and very frequently will be harmful. I have observed this many times, by testing the hearing with the watch before and after inflation. A good indication of knowing when to discontinue the use of the air inflation is to test the hearing before inflation and then afterward. If the hearing is not increased by the inflation, then inflation will certainly do harm.

UNILATERAL INFLATION.

There are times when one middle-ear cannot be inflated without causing a painful sensation in the other. To avoid this, I direct the patient to close the auditory meatus of the painful ear by pressure upon the tragus with the fore-finger. This pressure prevents the excessive outward movement of the drum-head, which is the cause of the pain, by condensing the air on the external side of the membrane, so that the outward movement is greatly decreased.

The force applied to send the air into the Eustachian tube should be such as will only be sufficient to drive the abnormal secretion into the middle ear. It seems to me that the employment of excessive force, such as must result from compressing the rubber air-bulb suddenly and with all one's might, must be very harmful. Generally but little force is required; even the eructation from the stomach will sometimes completely fill the middle-ear, so as to cause the person to swallow so as to allow some of the redundant air to escape, to the relief of discomfort and deafness. This plainly demonstrates that this canal is not so very difficult to open. May be some one will say that the Eustachian tube is so completely closed that it requires this degree of pressure to open it. This I doubt; and if it is so, this method of opening it will certainly result in complete failure.

I do not prefer the use of water in making this inflation. The act of deglutition makes a complete and too unyielding closure of the pharyngo-nasal cavity. In this condition there is a liability for the air to be too strongly forced into the middle-ear, so that pain may be the result, which may do more harm than good. The ear is so delicate an organ that we should not run the least risk of doing it even a slight injury, especially at a time when it is already invaded with a serious inflammation.

The employment of a method that will result in forming an easily-yielding closure of the pharyngo-nasal space is, in my opinion, very much better, because safer from over-pressure in the middle-ear.

To do this, we only have to ask the patient to pronounce forcibly and distinctly the word "what," and then to hold on to the "t"-sound of the word. This "t"-sound is held as it were by the pressure of the tongue upon the hard palate. Should the first effort fail to inflate the ear—that is, if the patient does not hold to the "t"-sound by firm upward pressure of the tongue—then have him try again, and this time direct him to use a little more force of the lungs. As there is no disagreeable effect following this procedure, there is no difficulty in getting the patient to employ sufficient force to inflate the middle-ear.

The "t"-sound can easily be held for fifteen seconds if required, so that the continuous air-pressure can thus be maintained on the middle-ear. At the same time if this length of pressure or the force be too great, the patient will involuntarily and instantly relieve it by the simple act of his tongue, allowing the compressed air to instantly escape from the mouth. This is a slight modifiation of Gruber's method.

In infants and children to the tenth year of age this word-closure of the soft palate is not required. All that is required is to place a nose-piece—large enough to completely fill the opening—into one nostril, and allow the air to pass in a uniform stream; then in a few seconds the desired result will be attained, even without closing the other nostril, as the passage of the air will invariably cause some motion or action of the soft palate, resulting in the act of deglutition, which closes the pharyngo-nasal cavity; the excess of compressed air escapes from the other nostril.

In my experience I have frequently noticed that after inflating the ears of children the hearing, which had been very greatly increased, would in even ten to fifteen minutes be decreased fully fifty to eighty per cent., and in some few instances a greater decrease will be observed. In such cases I have had them remain in the office to receive a few additional inflations, about once every fifteen minutes, for from three to five times, all the time observing that not the least disagreeable sensation is produced; on the contrary, the patient should express relief. If possible, this expression of relief should as nearly as possible be voluntary, as the answer to direct questions is not always reliable, for the question must necessarily indicate, in some degree, the answer desired. It is very important that the physician should not be deceived, even unintentionally.

Not infrequently the spray of warm vaseline passed into the anterior nares of infants will produce the desired effect. If the little patient makes a sudden start while the spray is being thrown into the nostril, this is an evidence that it has experienced a sudden opening of the Eustachian tube. The sudden entrance of air will cause a sudden noise or crack in the ear, which will cause the child to jump or start.

LIBERATING THE OSSICULA AUDITUS.

There is another object in the inflation of the middle-ear cavity that has been generally advocated for quite a number of years, and that is, to cause very gentle outward motion of the abnormally situated ossicula auditus. I am not so strong an advocate of this as I was some years ago, as it may in a few years be shown that even this degree of thwarting of nature's method of giving good hearing may be more injurious than beneficial.

I think that it requires many years of close observation to determine some of these extremely nice points in the management of ear-ailments, and of the relation of the physiology of the ear to its pathological condition.

I have had, in the 70's and 80's, what I then thought was many good results from passive inflation of the middle-ear in cases suffering from excessive in-drawn conditions of the membrana tympani. In the last six or seven years I have done much less inflating of the middle-ear, and it seems to me—assisted by the patients' voluntary statements—I have been as fully as successful as when I gave repeated inflations, and in a few cases I seem to have been more successful without the inflations. In these cases I invariably, as already stated, test the hearing before inflating, and then after inflation; if the hearing is not improved by inflation, or the patient does not express any sense of relief, then I discontinue the inflation, at least for some weeks. If, after this, the inflation has no relieving effect, I make no further use of it.

I have said nothing concerning inflation with the Eustachian catheter or spray producers that throw a stream directly into the mouth of the canal. I have no use for the former instrument. I discontinued its employment over twenty years ago because of its excessively irritating effect in the mouth of the tube. The Eustachian sprayers are only required in a very few cases of patulency of the Eustachian canal, and even in the majority of these cases, the sprayers that treat the pharyngo-nasal and post nasal cavities are far better instruments.

Hereditary Gout of the Ear.

The author, D'Aguanno, first describes the pathology of the affection, and then gives the history of three cases in which deafness developed as soon as the patient arrived at the age of puberty. There was no hereditary luetic history or disease of the naso-pharynx. The father had been the subject of gout for several years. From these facts the doctor believes himself justified in saying that in hereditary gout there is a form which affects the ear at the age of puberty.—*Rev. Internat. de Rhin., Otol., et Laryngol.—American Medico-Surgical Bulletin.* S. S. B.

HYSTERICAL DEAFNESS AND REPORT OF CASES.

BY F. PIERCE HOOVER, M.D., NEW YORK.

During the past year, several of the above-named cases have been treated by me which have previously been diagnosed labyrinthine disease, and told they would be permanently deaf by the doctors who had examined them. Two of these cases were regular habitues of clinics and dispensaries. In some, the deafness was comparatively recent; in others, it was of years' duration. In not more than three or four cases did I learn, after much questioning, that patients were of a nervous tendency, or that their family were predisposed to any nervous disorder. I speak of this, as I think a doctor cannot gain *too* much information pertaining to a suspected case of the kind mentioned above. One case, of special interest to me, I had under my observation for a number of months, for labyrinthine disease of both ears, and only by chance did I find I was mistaken in my diagnosis, and then by the merest accident. One day, while examining her ears, my lamp chimney cracked. The patient, a woman 40 years old, jumped and looked round; she claimed, however, she heard nothing. I did not believe the assertion, as only a few days before she could not hear the voice, unless at a very loud pitch, one foot from her; watch and tuning-forks not at all. At next visit, being alone with patient, had office boy come to me and say in a low voice: "That lady's dress is on fire"; she at once screamed "Put it out quick," and ran from the room. I prescribed asafœtida pills, gr. v., three times a day, plenty of exercise and fresh air, etc. Later, she went to Atlantic City; was greatly improved after an absence of two months.

Have used the battery with very good result for a short time *daily*, with outdoor exercise. Have had at least a dozen cases of the kind. Some patients would neglect themselves, believing they could never hear, or else were indifferent, having tried so many remedies, and paid out so much money for doctors' bills. Recently, I had a thin, emaciated man come to me at the Manhattan Eye and Ear Hospital with a nervous twitching of his face and body, who stated for the past four months his hearing was getting worse. He was impressed with the idea he would lose his hearing entirely, and had felt for more than a year that he would be like his aunt and grandfather, who were also deaf. The former, I learned, had typhoid fever when young, and the latter was 92 years old. Upon examination, I did not feel positive of my diagnosis of labyrinthine disease, although every indication would lead me to think so. After using every test, I deemed it advisable to have him attend the nerve clinic. He rapidly improved, grew stronger, and felt in many ways physically like another man; but, if he knew I desired to *test* his hearing, he always claimed he heard no better. I detected, however, that he really did hear, in various ways unsuspected by him; as, for example, dropping a pencil behind his chair, which he heard fall and picked up.

Last December a patient came to hospital for her "ears to be cleaned out, as she knew the wax made her deaf." I found canals clear; T. F. heard nomally in both ears; watch, finger nails, and acoumeter heard not at all. She insisted I was mistaken in not finding wax, and left clinic angry. She returned a few days later, with great pain and ear discharging. In her endeavor to pick out cerumen, she used a darning needle, and she had suffered ever since. When her ear had been cured of the discharge, her hearing returned. She insisted that the wax had softened by the "watery flow" from her ear, and thus was passed out when she was unawares, while lying down or asleep on the affected side. At last visit heard watch 18 inches, voice 12 feet, and T. F. same as previously mentioned. In my opinion, this was another case of hysterical deafness. Other cases of the kind I could mention, but do not care to make this article too long. I only desire to impress upon the readers of the above that they may sometimes run across such cases, and surmise they are of a more serious nature, as I was led to believe.

Hysteria usually, in my opinion, is a mild form of insanity, and is a symptom produced by morbid conditions, which may arise in the brain primarily, or from some depraved condition of the general system, more frequently seen in the female than the male. All but two cases under my observation were females.

143 W. 45th St.

Dr. Rumbold,

Of St. Louis, Mo., thinks that every person who is obliged to use a handkerchief has an irritated condition of the nasal mucous membrane. By the same token, we can safely reason that the inventor of the handkerchief had catarrh!—*Ex.*

Certainly.

TREATMENT AND PROGNOSIS OF CATARRHAL DEAFNESS IN YOUNG CHILDREN.*

BY J. ALOYSIUS MULLEN, M.D., HOUSTON, TEXAS.

As we live in an age of preventive medicine, the importance of otitis media catarrhalis hypertrophica in very young children engages our attention from a prophylactic standpoint, and directs our endeavors to the isolation of the causes of this condition, and suggests the means by which they may be irrevocably removed and their results corrected, so that the consecutive pathological changes of chronic hypertrophic aural catarrh will have been prevented from occurring, thereby rescuing the patient from years of auditory incompetency and suffering.

There is a prevailing impression among the general profession, fostered and promulgated to a great extent by the text-books, that the prognosis of catarrhal deafness is more grave to the restoration of hearing, the younger the patient. In other words, the more juvenile the patient the more difficult it is to successfully treat these cases and carry them to a place of auditory safety.

The universality of this erroneous idea has rendered the profession, in its consideration for these cases, prophylactically apathetic, and has permitted numerous children to become men and women greatly handicapped in life by severe and permanent obtundity of a very appreciable sense, hearing.

Children are in the formative period of their physical as well as their mental lives; and in children deafness is very frequently overlooked, or is not attributed to its true cause, and is so not made a matter of treatment.† So then that any therapeutic or surgical assistance rendered them during this time will be far more apt to remove the causes of catarrhal deafness and prevent the pathological changes in the middle-ear contents and drum, so tending to permanency and dangerous to hearing and the development of this sense *pari-pasu* with the other special senses which at this time more than any other depend so largely upon the assistance of audition for their associated action and development. Furthermore, if these cases are allowed to progress and their hearing become seriously affected, *pari-pasu* with the development of this obtundity, the functional activity of the auditory center is nullified from non-use, the degree of which depending upon the length of time and the character of the cause of deafness. This same narcosis of function may occur in any center or member of the body when the same is not in active use.

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*Read before the Southern Section of the American Laryngological, Rhinological and Otological Society, New Orleans, La., March 3d, 1897.

†"System of Diseases of Ear, Nose and Throat," Burnett (Sexton), Vol. II., page 328.

This point I have taken especial care to bring more fully before the profession at the last meeting of the Texas State Medical Association.*

The causes of deafness in young children primarily produce obstruction either of air or circulation; they render the free passage of air difficult, and contribute to frequent circulatory disturbances, no matter what may be the character of the nasal, tubal or pharyngeal disease present.

The obstruction interferes with the free entrance and preparation of air into the middle-ear, and also with the free circulation of blood in the mucous membrane lining the entire air tract.

The common causes of catarrhal deafness in the very young, are nasal polypi, hypertrophic rhinitis, adenoids, enlarged tonsils, etc. These produce obstruction of the air passages; materially interfere with the proper amount and normal preparation of air; while they also, with acute rhinitis, acute naso-pharyngitis, and acute salpingitis, produce catarrhal inflammation of the Eustachian tube, mucous membrane of the tympanum, and disturb the equilibrium of the circulation in this region.

The report of the following cases it is hoped will bring this subject under general discussion and serve to demonstrate the treatment used, and afford a modification of the generally accepted prognosis so frequently given by the profession at large, and to condemn the advice that "the child will outgrow his deafness."

C. B. and J. B., brother and sister, aged respectively 7 and 9 yrs. Both mouth-breathers; they also had hypertrophic rhinitis and enlarged tonsils. Bone conduction + in both children and in both ears. It is heard by boy, R.E. 3 inch, L.E. 1 inch. The girl had same dullness. Whisper not heard in L.E. of either child, and with difficulty in the R.E. Voices had changed in character and intensity, with noticable inattention and lack of interest in their studies. Tinnitus present in both cases. Drums appreciably retracted and not freely movable. The rest of my cases show approximately the same histories, with the occasional presence of adenoid or polypoid growths. These two cases serve as a type sufficient to illustrate this class of cases and render the detailing of similar ones unnecessary.

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*Texas State Medical Association Transactions, April 23d, 1896.

The treatment adopted was in general terms about the same in all cases of catarrhal deafness in the young that come under my observation. It consists in the removal of adenoid or polypoid growths, hypertrophic tonsils, and the reduction of thickened nasal mucous membrane, combined with naso-pharyngeal and aural medication.

Fused chromic acid crystals were applied to pin down the hypertrophic mucosa. The patency of the Eustachian tubes must be insured; so also must there be guaranteed the free circulation and preparation of air, the prevention of vacillations of the circulations due to congestions, etc., or else treatment applied to deafness in the very young will not be productive of any permanent results, amounting merely to a waste of time and energy in a large number of cases. After the thorough removal of all obstructions, I place more reliance in the daily use of the Seigel pneumatic speculum with Politzer bag attached than in any other appliance or form of corrective treatment.

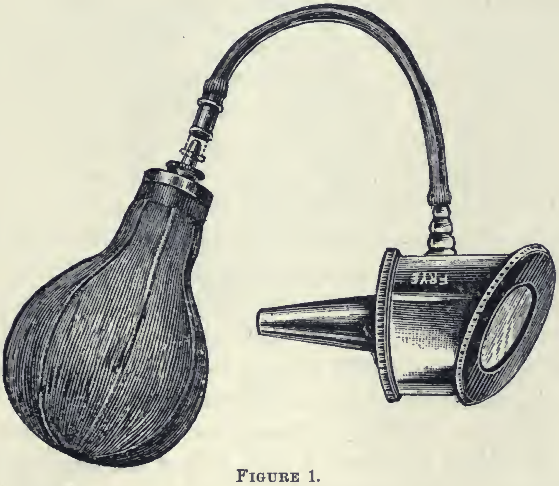

FIGURE 1.

The membrana tympanum and ossicular articulations should be exercised gently every day for a sitting of three to five minutes' duration, with the speculum and Politzer bag attachment (Fig. 1). The membrana tympanum to be under illumination all the time. If indicated, the child should be given an alterative to improve the general health.

The hygiene of these cases is not by any means a matter of small importance, but should be considered of great utility and usefulness. The temperature of the sleeping apartment should be regular, and the air pure and easily renewed. Heated rooms absorb the nasal and pharyngeal secretions, and faciliate mouth breathing with all its attendant evils. These children should also be prohibited from sleeping in the same room with persons who have enlarged tonsils or any chronic throat affections; and care exercised to keep them from going out in the night air. All forms of treatment for these little ones should be guided by mildness and gentleness; and always bear in mind that tissues are being dealt with which admit of great benefit or severe injury; and never abuse the confidence of childhood. Furthermore, the aurist has not thoroughly completed his work and accomplished all possible for his little patient unless, after the removal of adenoids, enlarged tonsils, etc., he use some form of corrective mechanical treatment calculated to restore the transmitting structures of the middle ear to their conducting acuity.

602 Main St.

Connection Between Word Deafness and Deafness.

Word deafness has hitherto been ascribed to a cerebral lesion, but Keller and Freund have recently been impressed with the important connection between it and disturbances of the ears, especially of the labyrinth, which is able alone to cause word deafness. They urge the necessity of investigation of the ears in such cases. Keller asserts that isolated speech deafness, with retained ability to comprehend other sounds, often corresponds with bilateral affections of the labyrinths, and is dependent upon tone-gaps in that portion of the tone scale which is physiologically important for the comprehension of speech. It sometimes happens that bilateral ear affections which in themselves are not sufficient to cause word deafness, produce it by a secondary degeneration of the nerve tracts and auditory centers. It requires such supreme efforts of attention then to hear that the patient gradually renounces the attempt, and lack of use hastens the degenerative processes. This is demonstrated by Urbantschitsch's system of ear gymnastics, which does not so much improve the hearing as it arouses and practices the faculty of comprehending what is heard. Pick's case is instructive in this respect. The patient was exceedingly hard of hearing with word deafness also, and yet no lesion of the ears could be ascertained. The necropsy revealed, however, great alterations in the temporal lobe, to which the sensory aphasia was undoubtedly due.—*Deutsche Med. Woch.* S. S. B.

CLINICAL REPORTS.

TWO INTERESTING CASES.

BY JOHN B. KEBER, M.D.

Professor of Diseases of the Skin and Syphilis, Beaumont Hospital Medical College,
St. Louis.

Triple Specific Infection.

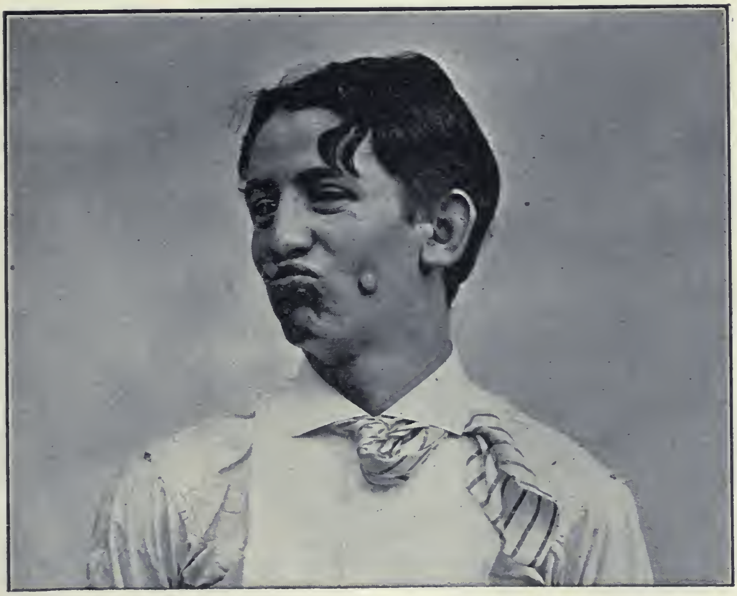

FIGURE 1. Triple Specific Infection.

CASE I.—M. B., printer, age 21, applied for treatment June 23rd, 1896. He stated that about four weeks previously he had noticed the lesions on the upper lip, penis, and left cheek as small papules. They appeared about the same time, gradually increased in size, became eroded and indurated, but gave rise to no pain and little inconvenience. He, therefore, hardly gave them a thought. An eruption had made its appearance on his body within the past few days, and for this he had applied for treatment. This eruption was readily recognized as a maculo-papular syphilide. Date of exposure could not be determined. The interesting feature in the case consists in the triple infection, giving rise to three initial lesions in regions widely separated. *Practically*, the case offered no difficulties, as the complex of symptoms was complete; *theoretically*, however, it presents many points of interest, but as their discussion would hardly come within the scope of this journal, it will be reserved for a future paper. The illustration shows the salient features of the lesions on the lip and cheek, the lesion on the penis having been omitted.*

Initial Lesion of the Tongue.

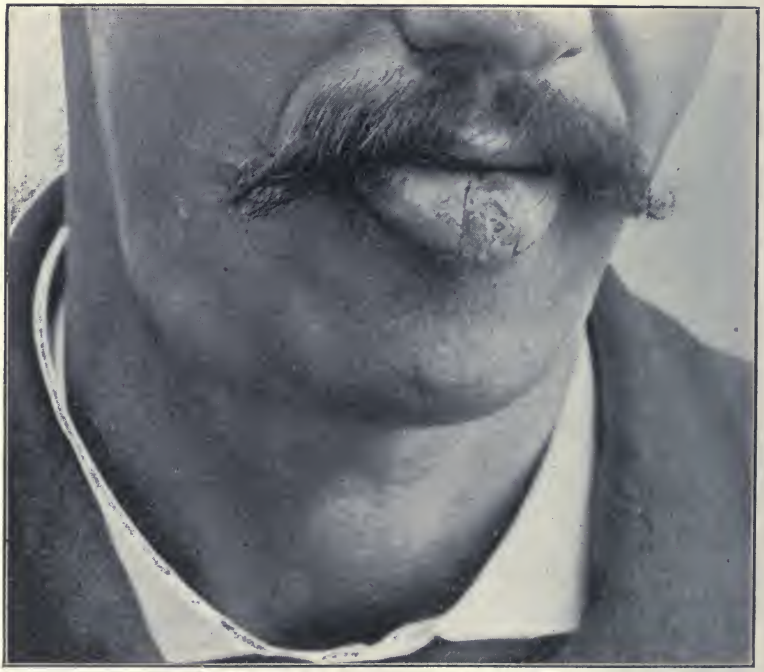

FIGURE 2. Initial Lesion of the Tongue.

CASE II. is interesting from a practical standpoint, inasmuch as the patient presented himself so early after infection that the importance of the lesion might easily have been overlooked. He stated that about ten days before, in using his knife as a tooth-pick, he had slightly wounded the tip of the tongue. The cut healed promptly, but three or four days before consulting me he noticed a small spot as large as a pinhead covered with what he thought was a white membrane. Attempts at its removal proved a failure, and, as the spot increased in size from day to day, and inconvenienced him some by striking against the teeth, he called upon me for treatment. Inspection showed a lesion on the tongue, about one-quarter of an inch from the tip and a little to the left of the median line. This lesion was about the size of a lentil, slightly elevated, pearly white in color, and surrounded by a dark red halo about one line in width. It was perfectly round (later oval), sharply circumscribed, and on superficial examination seemed nothing more or less than a membranous deposit on a slightly congested base.

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* THE LARYNGOSCOPE will, on application, send a full length illustration of this case to any subscriber remitting a two-cent postage stamp.

Closer inspection showed, however, that this was a mistake, and that the lesion really consisted of a small papule covered by a thickened and opaque epithelium. Palpation revealed a slight increase in the consistency of the part. The neighboring lymphatic glands were apparently normal. As the result of a process of exclusion, a probable diagnosis of "initial lesion" was made, and the patient instructed to report daily. The lesion increased slowly from day to day, its general character remaining the same, and in four or five days had attained the size of a split pea. Induration was now easily recognized, and the submaxillary glands on the right side showed signs of involvement. The centre of the lesion became depressed, and as the lesion grew in extent, gradually became eroded. The photograph was taken at the end of the second week, and shows the fully developed lesion, as well as the enlargement of the glands. At the proper time a macular syphilide made its appearance. Constitutional treatment was at once begun, and resulted in the rapid disappearance of all symptoms.

Ethmoiditis.

Dr. J. F. Barnhill (*Ind. Med. Jour.*) says that in simple cases the treatment should consist in removing all obstructions to the free drainage of the cells, and the application of soothing washes or sprays. In chronic cases he advises that a portion of the middle turbinated bone be removed, and that all the suppurative cells be converted into one cavity, if possible, by means of the curette or drill. The subsequent treatment should consist of hot antiseptic douches. Vigorous constitutional treatment will be needed.

By following this line of treatment all will be improved and many cured, but the patience of both surgeon and patient may be severely taxed.

NEW INSTRUMENTS.

A MECHANICAL SAW AND SEPTAL PLANE.

L. L. MIAL, M.D.

Assistant Surgeon to the Manhattan Eye and Ear Hospital

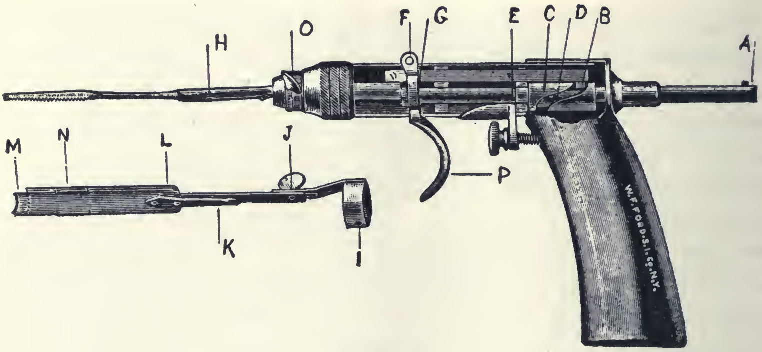


FIGURE 1.

The cut showing as it does, with the outside case removed, the mechanical combination of this instrument renders few words necessary for its description. I claim for it:

1st. Minimum vibration, enabling the operator to hold it with ease.

2nd. By the brake device (PFGE; friction is applied to the main shaft at E) we have the speed of the stroke absolutely under control, using a fast or slow motion as we may desire. No other instrument has such a feature, and I regard this one of the most important in the manipulation of such a saw.

3rd. The septal plane, which is nothing more nor less than a chisel, M, made from *very thin* hard steel running in a guard, L N, also *very thin.* It will be seen from the cut how the attachment is made. The handle K attaches to the saw rod at H, the ring I fitting over the end of the case at O and secured by a screw. Now applying the power, the plane is driven fore and aft just as the saw. The depth of cut at each stroke is regulated to a nicety by the slide and screw at J; usually $\frac{1}{64}$ of an inch is the best set to give. These plane attachments are made in numbers of sizes and shapes just as trephines and chisels. I find the curve or gauge shape the most satisfactory as a rule, and the F shape very efficient in making a section from enlarged inferior turbinates.

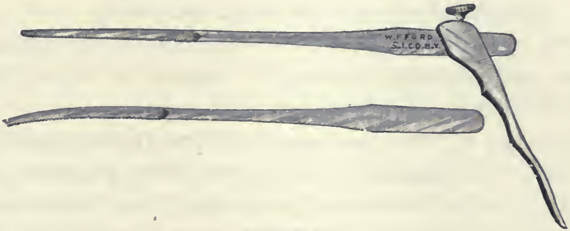


Figure 2.

The saw is the same as that shown here. This was devised nearly two years ago, and has been used by myself and colleagues since that time with great satisfaction. I may safely say that we have found it to cut faster and with less binding and sticking than any saw previously used. It differs from others in having a curved blade (the straight blade in the cut should be shown curved in opposite direction from the curved one) in which the axis of each tooth is along the radius of the circle of which the curve in blade is a segment. It will be seen that this gives the rear teeth a forward set, and the anterior teeth a rear set, cutting therefore on both forward and backward stroke.

It has not been my intention in presenting these instruments to show anything so specially new, but to give some improvements by which our septal operations could be facilitated. My thanks are due to Mr. C. F. Ford, of the W. F. Ford Surgical Instrument Co., for his untiring efforts and valuable suggestions in producing these instruments.

145 West 12th Street, New York.

ON THE USE OF INCANDESCENT LIGHT CURRENT FOR GALVANISM, FARADISM, AND ELECTROLYSIS.

BY J. F. OAKS, PH.C., M.D., CHICAGO.

Professor Otology, Rhinology and Laryngology in the Chicago Eye, Ear, Nose and Throat College; Professor Otology Harvey Medical College, Etc.

The general introduction of the electric current for commercial purposes and domestic lighting has made it very desirable that some inventive genius would make it possible to utilize the same by the electro-therapeutist without fear or anxiety.

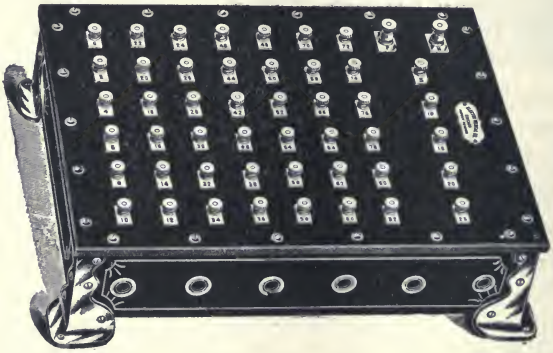
As a result of active research and experimentation in this field, I am prepared to give my testimony in favor of the "Shunt-Coil" (for use on the direct incandescent light current), as designed by Dr. Wagner, and made by the Electro-Medical Co.

In this instrument we have found the merits of precision, uniform constancy, absolute safety, and thorough reliability.

The graduations of voltage are very fine, and so accurate as to vary only within one per cent., making it possible to obtain the desired regulation of voltage independent of amperage.

The advantage of this instrument to the general practitioner and specialist must be apparent. It affords him absolute control of the current in precisely the same manner as if cells were used for galvanic, faradic or electrolytic purposes, with none of the annoyances attending a large number of battery cells, which require from time to time recharging and repairing, are liable to get out of order and "to strike" on the least provocation, at the expense of the loss of temper on the part of the physician and the discomfiture of the patient.

The "Shunt-Coil," as here illustrated, has been in my office for the past few months. It has not only more than met my expectations, but has fulfilled all the requirements of a galvanic battery, and without any care for one moment of annoyance or trouble.



In electrolytic work, where milliamperage is the active principle of the current, and which should be obtained (as is the case in this instrument) with the least possible electro-motive force or voltage, the operation of electrolysis (as for epilation) is much less painful than it would be with higher voltage.

I have experimented with various rheostats and current controllers for utilizing the incandescent light current, but have found them impracticable as well as unreliable and dangerous.

The "Shunt-Coil," instead of choking down the current strength by decrease of amperage only, as is done by the various forms of rheostats, is so constructed as to utilize only a portion of the current strength of the main circuit by shunting or tapping, so to speak, the main current, as is more fully explained in the catalogue of the Electro-Medical Co.

The fact that the voltage of the main circuit does not directly affect the voltage of patient's circuit makes it absolutely safe, and relieves the mind of the operator from the worry of a possibility of painful shock or damage to the patient.

I take pleasure in announcing that at an early date I will make additional comment in the pages of THE LARYNGOSCOPE on the "Shunt-Coil," with histories of some interesting cases treated by galvanism and electrolysis.

1202 Champlain Building.

A NEW MECHANICAL SAW FOR SEPTAL OPERATIONS.

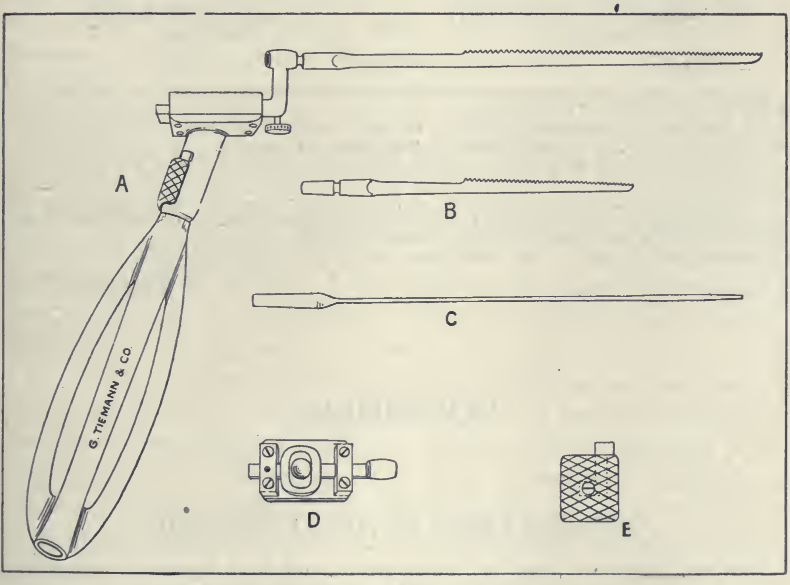


FIGURE 1. The Scheppegrell Mechanical Saw (reduced ½).

The mechanical septal saw devised by Dr. W. Scheppegrell, and which was described in the last number of THE LARYNGOSCOPE, is shown in the adjoining figure. It is made by Messrs. Geo. Tiemann & Co., New York.

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EDITORIAL.

CONSERVATION IN NASAL SURGERY.

The too frequent surgical interference with the nasal turbinates in rhinologic practice of recent years is partially due to a defective knowledge of the pathology of the region involved. The turbinates of the nose are the *locus minoris resistentiæ*; perhaps even the *safety valves* of functional disturbance in many other parts of the body. It is the scapegoat which exhibits the results of unhygienic surroundings, faulty diet, lack of exercise and intemperance, and forms a complication in most of the exanthemas and a large number of functional and organic derangements of other organs of the body.

The necessity of proper nasal respiration was impressed upon the rhinologic student, without, however, sufficient importance being laid on the relation of this mucous membrane to other conditions of the body. The most direct method, therefore, of restoring an obstructed respiration appeared to be the removal of the obstruction. Where this obstruction to nasal respiration is a deviation or thickening of the septum, a tumor or a true hypertrophy, the principle is correct. In the majority of cases, however, the obstruction is simply a passive congestion or hyperemia, and the removal of this by the electro-cautery or other means gave simply temporary results. The same causes which produced the original lesion still existed and caused a prompt return of the obstructed breathing.

On account of the rapid return of the nasal obstruction in many cases, a radical measure was at last suggested—turbinectomy—the total removal of one of the important portions of the nasal organ. This operation, of course, affords a passage for the air; but the total extirpation of the turbinate, while removing an obstruction, also removes an important factor required for obtaining the benefits of the operation. The injurious effects are due not only to the loss of so large a portion of the nasal mucosa, which plays so important a role in respiration, but also to the fact that the physical conformation of the nostrils has been altered. The removal of the turbinate increases the calibre of the nostril operated upon, which thus receives a larger portion of the respired air; but instead of having its functional capacity increased for this double duty, it has been handicapped by the removal of a considerable portion of the mucous membrane required for this purpose.

This radical measure, however, was not without its good result; it was the signal of the reaction; and now there is hardly a meeting of a prominent laryngological society in which papers advocating greater conservatism in rhinologic practice are not presented. Such articles will stimulate the rhinologist to examine more closely into the pathology of the region involved, and will cause him to remember that the nose is not an isolated organ, but forms a part of a complex system, each organ of which is, to a certain extent, dependent upon the other, and that the normal condition of one is dependent upon the normal condition of the remainder. With a true understanding of this principle, the results will be such as to react to the benefit of the patient and to the reputation of the specialist. SCHEPPEGRELL.

THE VENTILATION OF LIVING ROOMS.

Effectual ventilation of dwelling houses is well known to be a most difficult problem, and the discussion of it from an architectural standpoint would here be out of place. The laity now-a-days is impressed with the importance of pure fresh air indoors, and endeavors to provide for it, according to individual notions and prejudices, in a variety of ways. These efforts are strictly empirical, and are so often at variance with common sense and intelligent judgment as to warrant comment, since the comfort and health of the household are not seldom sacrificed to fanatical hygienic zeal.

Some individuals, for instance, need to be told that warm air is not necessarily impure, however oppressive its effect, even though the room "feels close." One can fairly diagnose the nervous status of a woman who is not comfortable in a railway car unless her window is open, and a gale of cold wind blowing in to the peril of her fellow passengers. Some unreflecting persons persist in opening wide the windows of a room in which is burning a fire with vigorous draught, the latter affording abundance of ventilation.

But perhaps the most extreme notions are exhibited in the opening of the windows of good-sized bed-rooms in severe winter weather, at night. After spending the evening in a warm parlor or sitting-room, many persons far from strong disrobe in a cold bed-room and creep shiveringly into a colder bed after carefully opening the windows. Yet it is physiologically demonstrable that far less oxygen is needed and consumed by the body during sleep than during waking hours. Nature, by unerring instincts, guides the lower animals; and it is pertinent to here inquire what amount of ventilation exists in the narrow quarters occupied by the hibernating bear, or what amount of fresh, pure air is breathed by new-born suckling kittens, apparently smothered beneath the mother cat!

Pure fresh air is undoubtedly a great desideratum; but the proper ventilation of dwellings by their inmates in winter would seem to be best accomplished by freely opening its apartments to sunlight and air during a portion of the day, then closing them and depending (in place of something better) upon the ventilating effects of chimneys.

The matter is worthy of attention as regards the etiology of nasal catarrh, and the views and practice of patients as to the subject of household ventilation should generally be inquired into.

EATON.

WESTERN OPHTHALMOLOGICAL, OTOLOGICAL, LARYNGOLOGICAL AND RHINOLOGICAL ASSOCIATION.

The Second Annual Meeting of the Western Ophthalmological, Otological, Laryngological and Rhinological Association, held in St. Louis April 8th and 9th, was practically the first scientific meeting of this body, as the first meeting was devoted mainly to organizing. From the number, general excellence and originality of the papers presented, the animated discussions, and the enthusiasm shown, we are warranted in predicting for this young association a bright and useful career.

It may not be inopportune to state that some more satisfactory arrangement for conducting the proceedings might be made for the Chicago meeting. The association made a good move in making the qualification for membership more stringent. We understand that the Programme Committee for the next meeting intends going to work at once, which should assure a most excellent list of papers. With the material to draw from that the association has at its disposal, it should not be difficult to arrange matters so that there will be two sections: one for the eye, and the other for the nose, throat and ear. There could be a general morning session, at which the business is transacted and subjects of mutual interest discussed; the afternoon and evening sessions could then be devoted entirely to the consideration of special papers in the section in which they would be classed. The advantages of such a plan would be a great saving of time, a concentration of forces in the individual specialties, and a more thorough discussion of worthy papers.

Properly managed, with a suitable date of meeting, it should not be difficult to secure the attendance of two hundred of our interested special practitioners.

Every one qualified for membership in the West should identify themselves with this Association.

The Laryngoscope was chosen the official organ for the Otological, Laryngological and Rhinological Section.

CONTRIBUTIONS TO THE JUNE ISSUE.

The June issue of The Laryngoscope will contain original articles, editorials, transactions of the Laryngological Section of the New York Academy of Medicine, society proceedings, and the usual condensation of the principal articles from current literature. The following list of original communications will appear in the June issue, or as soon thereafter as possible:

Dr. C. E. Munger. Waterbury, Conn.: "Retro-Pharyngeal Abscess."

Dr. E. O. Sisson, Keokuk, Ia.: "Adenoid Vegetations."

Dr. J. A. Mullen, Houston, Tex.: "A Case of Inflammatory Glaucoma of Reflex Nasal Origin."

Dr. W. C. Phillips, New York: "Localized Epithelioma of the Larynx."

Dr. J. F. Barnhill, Indianapolis: "Diseases of the Glosso-Epiglottic Space."

Dr. Seth Scott Bishop, Chicago: "Treatment of Chronic Suppuration of the Middle Ear."

Dr. Arthur G. Hobbs, Atlanta: "When not to Inflate the Middle Ear."

Dr. J. O. Stillson, Indianapolis: "Report of a Case of Double Mastoid Disease; Operations; Recovery."

Dr. J. Holinger, Chicago: "Diseases of the Labyrinth."

Dr. M. A. Goldstein, St. Louis: "Advanced Method in Teaching the Deaf."

Dr. Thos. F. Rumbold, St. Louis: "Function of the Stapedius and Tensor-Tympani Muscles."

Dr. Bretano Clemens, New York: "Injuries to the External Auditory Canal by way of the Pharynx; Removal of the Foreign Body."

Dr. Seth Scott Bishop, Chicago: "A New Electric Illuminator."

Osteomata of the Auditory Canal and their Treatment.

Dr. E. J. Moure states that the osseous obstructions of the auditory canal are usually formed of impacted tissue of ivory consistency, and are difficult to remove with cutting instruments. (*Revue Hebd. de Laryng. d'Otol. et de Rhin.*, Sept. 26, 1896). It is better to remove them with a gouge than to try to reduce them with the drill, or by the numerous methods generally recommended by authors.

The radical and complete eradication is as important here as in the osseous tumors of the nasal fossa and of the face. The author relates two cases in reference to men 45 and 50 years old, who had osteoma of the canal, and at the same time suppurative otitis media. The skin was incised and a gouge passed through this opening and pushed in until the tumor was loosened and detached. If the osteoma is very near to the tympanum, it is more prudent to free the pavilion and the cartilaginous canal before attempting the operation of the tumor.

W. S.

SELECTIONS
FROM CURRENT MEDICAL PUBLICATIONS.

RHINOLOGICAL.

Study of the Nature and Etiology of Simple Catarrhal Rhinitis.

Drs. Fermi and Bretschneider offer the following conclusions in regard to the nature and etiology of simple catarrhal rhinitis (*Archiv. Ital. di Otol.*, *Rinol.*, *etc.*, No 1, 1896):

1. Simple coryza is not a parasitic disease.

2. Many cases of coryza are due to the direct irritative action of numerous physical agents, both chemical and mechanical, on the nasal mucosa. These agents penetrate into the nasal cavity, coming either from without (traumatism, polypi, coryzas of workers in chemical products), or from within (the ingestion of iodide of potash, coryzas accompanying infectious diseases, especially in exanthemata).

3. Colds, properly speaking, are due to a vaso-motor disturbance, either trophic or functional, of the nasal mucosa. It is therefore an affection purely of a nervous nature. It is not due to the action of cold, *per se*, but to sudden changes of temperature. The affection is more especially observed when the atmosphere is charged with humidity, and in this condition the least changes of temperature are noticeable.

4. Hay fever appears in persons in whom the trophic innervation of the mucous membrane of the nose is altered in a marked manner. It may also be due to a functional alteration of the whole nervous system, whether that alteration be congenital or acquired. It is not produced directly by physical agents, mechanical or chemical, but by a reflex method following the excitation of a general or specific sensibility.

W. S.

The Treatment of Adenoid Vegetations by Resorcin.

Dr. Chaumier, of Tours, reports his experience with the method of treating adenoid vegetations with resorcin, which, it has been claimed, will make an operation unnecessary (*Med. Mod.*, December 23rd, 1895).

In order to give a satisfactory opinion of this method, he selected from his clinic three children who were affected with adenoids to a marked degree. Every second day an application of a solution of resorcin, 100 to 100, were made to the naso-pharyngeal cavity. At the end of nine, ten and fourteen visits the results were negative, with only a slight diminution of the volume of the growth. The only real result obtained was that there was a slight amelioration of the hearing in the children who were affected with deafness. A similar want of success was obtained in the treatment of the faucial tonsils. Chaumier, therefore, concludes that these applications have no influence on the adenoid vegetations. Except in cases of acute adenoiditis, the best method of treatment is the employment of forceps or the curette.

W. S.

Perichondritis Septi Narium Serosa.

Complete obstruction of the nasal entrance took place in a male patient fifty-three years of age without apparent cause (Dr. Josef Pollak, *Archives of Otology*, Vol. XXV., No. 4). Two pale red tumors could be seen on examination. The swelling on the septum was incised, and serous fluid was discharged. After free opening of the other swelling by means of the galvano-cautery, the quadrangular cartilage was found to be perforated by a fissure. The author believes the degeneration of the cartilage to be similar to that of othæmatoma.

M. D. L.

Diagnosis and Treatment of Suppuration of the Ethmoidal Sinuses.

Dr. Claoué states that, from a practical standpoint, ethmoidal suppurations may be divided into: (1) empyema with orbital manifestations, (2) latent empyema, and (3) cystic empyema (*Revue Int. de Rhin., Otol., and Lar.*, March, 1897).

Latent empyema, which is the most difficult to diagnosticate, is suspected when, in a unilateral or bilateral rhinorrhea a minute examination cannot discover a sequestrum, a foreign body, or a suppuration of Luschka's gland. The most important sign is the finding of pus below the ethmoidal bulla (for the anterior cells), or in the neighborhood of the olfactory fissure (posterior cells).

In order to diagnosticate the origin of ethmoidal pus, it is necessary to eliminate successively the other sinuses by puncture, or by catheterization followed by irrigation. If the pus reappears after this procedure, we are authorized in placing the blame on the ethmoidal cells. The methodic catheterization of the cells should then be practised in order to locate the pus. This diagnostic measure, which is also of therapeutic value, is recommended after a personal observation of this method for several months. The thin walls are easily broken, and in the affected bone a sensation of roughness is felt. In healthy bone one often obtains a sensation which would make us believe in caries.

Empyema with orbital manifestations presents the same symptoms as latent empyema, but it is easily diagnosed on account of the symptoms connected with the eye. It must be differentiated from abscess of the frontal sinus.

Cystic empyema, or cystic dilatation of one or more cells, is noted by the pain, by the tumefaction of the middle turbinal, and the freedom of the other sinuses from pathological processes. The puncture confirms the diagnosis. The treatment consists in evacuating the pus either by the nasal or external method. The former should be used whenever practicable; but where an orbital fistula exists, or where there are cerebral or general symptoms, or an infection of grippal origin, the external method should be promptly adopted.

W. S.

On Empyema of the Frontal Sinus.

Dr. Ahlstroem reports three cases of empyema of the frontal sinus (*Gaz. Heb. des Sc. med. de Bordeaux*, December 13th, 1896):

1. A man of 25 years suffered from a copious rhinorrhea and painful swelling around the left eye. In the superior internal border of the orbit there was a hard swelling without fluctuation; the eye was somewhat deviated upward, and the conjunctiva hyperemic; there was chronic congestion with considerable swelling of the middle turbinal. A fistula formed at the nasal portion of the upper eyelid, and a piece of necrosed bone was discharged. The sound penetrated through this opening into the frontal sinus, which was very large. The patient refused operation, and the fistular discharge persisted.

2. In this case, a man of 66 years had suffered for six years from a fistula near the middle of the upper eyelid which discharged a large quantity of pus. By means of a bent sound a small orifice in the orbital plate could be felt. By syringing, large quantities of pus could be brought away, but none of the solution passed through the nose. A large opening of the anterior border of the frontal sinus was then made, and an attempt to pass the sound into the naso-frontal canal was without success. The drainage was then made through an artificial opening, and the case was cured one month after the operation.

3. A man of 33 years suffered from tumefaction around the nose, the inferior part of the forehead, and the upper eyelid; violent head-

aches, exophthalmos, deviation and immobility of the eye, discharge of caseous pus from the right nasal fossa, and from a fistula in the upper eyelid. By means of the sound, a defect in the upper wall of the orbit could be felt. The sinus was opened externally, and drainage made through the *ductus naso-frontalis*, but without arresting the discharge of pus. Irrigation was then made with solutions of chloride of mercury, permanganate of potash, and chloride of zinc. The suppuration ceased at the end of six weeks. W. S.

Cause of Rhinitis in Children.

Dr. Thos. Hubbard (*Cleveland Jour. of Med.*), in an article entitled "Some Remarks on the Causes and Treatment of Chronic Nasal and Pharyngeal Catarrh in Children," calls attention to the fact that most of our school rooms and nurseries are over-heated in winter, and to this fact ascribes the start of many of what become troublesome cases of chronic rhinitis and pharyngitis.

LARYNGOLOGICAL.

Effect of Drugs on Secretion from the Tracheal Mucous Membrane.

1. Alkalies increase secretion.
2. Potassium iodide increases secretion.
3. Emetin markedly increases secretion.
4. Saponin in small doses does not increase secretion; in large doses it diminishes secretion.
5. Cold, when applied to the abdomen, diminishes secretion.—*N. Y. Polyclinic*, Jan. 15, 1897. M. D. L.

Reflex Cough.

Dr. John O. Roe (*N. Y. Med. Jour.*) states that cough is always a reflex act, and when arising from an irritation below the larynx is invariably for the purpose of expelling mucus. Where there is no expectoration, one is justified in concluding that the cough is due to irritation in the upper respiratory tract. One of the most fruitful sources of cough above the larynx is to be found in glandular hypertrophy at the base of the tongue.

Rheumatic Inflammation of the Crico-Arytenoid Articulations.

Dr. Sendziak reports a very interesting case concerning a patient of 18 years, who, during the final days of her pregnancy, experienced pain in the laryngeal region, with dysphagia, hoarseness, pain in several other joints, especially the elbow. Delivery took place without accidents; but the condition of the patient, far from improving, grew worse. To the symptoms already mentioned were added aphonia and fever. Laryngoscopical examination showed the posterior wall of the pharynx to be red and infiltrated. The crico-arytenoid articulations were immovable. The glottis was narrowed, and mucus was present in the inter-arytenoid fold. The father of the patient having died of laryngo-pulmonary tuberculosis, physical examination of the chest was practiced and the sputum was examined, but nothing was found to strengthen the suspicion of tuberculosis. Thinking that the disease might be a gonococcus infection originating in the vagina, the secretions in that canal were examined, but with negative result. After several days of treatment at home the patient entered the hospital. Admitting, then, the only possible hypothesis, that of polyarticular rheumatism, sodium salicylate was given, up to 4 grammes (1 drachm) a day, simultaneously with pulverizations of a two-per-cent. solution of cocaine. After eleven days of treatment the temperature descended to the normal. All the general and local symptoms, including those of the larynx, were at the same time ameliorated. Two weeks later the slight stiffness which lingered in the crico-arytenoid articulations disappeared, swallowing was painless, and recovery was complete, except that the left elbow resisted treatment. This joint was then covered with a twelve-per-cent ointment of silver nitrate, and ichthyol given internally, in the dose of 25 centigrammes (4 grains) thrice daily in capsules. Vapor-baths were also given. The pain almost entirely vanished. The patient then visited a bathing resort for some time, where she was treated by massage and movements of the affected joint. Eight months after the disease began she was seen by the writer and was entirely cured. Rheumatic inflammation of the crico-arytenoid articulations is exceedingly rare. Hitherto there have only been reported 3 cases of Compaired, of Madrid; 3 cases of Simanowski, of St. Petersburg; and 2 cases of Meyer.—*Revue hebdomadaire de Laryngologie, etc.*—*The Medical Bulletin*, January, 1897.

S. S. B.

Intra-Arytenoid Pachydermia.

Dr. J. W. Barrett, Melbourne (*Intercolonial Med. Jour. of Australia*, Jan., 1897) reports a case of this affection observed in a female, twenty-two years old; the symptoms complained of were increasing hoarseness, with temporary aphonia, and a tired feeling of the voice after talking for any length of time. No pain or difficulty in swallowing. Parents were healthy, and patient gave no history of other illness.

On examination a pink-white, fibrous-looking band was seen stretching between and below the arytenoids. It was 3 mm. in breadth, and distinctly elevated and rounded. The remainder of the larynx was normal. Iodide of potassium and mercury had no effect upon it. A cutting attempt was made at its removal, but without success. The tissue underwent no material change, as was seen at a later examination a number of months afterwards. M. D. L.

Intubation.

In a case where attempts at extraction caused a small tube to sink farther down into the larynx, Trumpp (*Münch. med. Woch.*, April 28th, 1896) made pressure with the thumb on the trachea just below the cricoid cartilage, where the end of the tube could be felt, causing cough which forced the tube out. This method of expulsion never failed in subsequent cases in which he tried it. The pressure may be made with both thumbs inward and directly upward. If a more powerful pressure is exerted, the tube may be forced entirely out of the mouth. W. S.

Spasm of the Glottis in the Course of Broncho-Pneumonia.

Two forms of laryngeal spasm (severe false croup) are described by Variot in *Pediatrics*, Feb., 1897.

The first in which the mediastinal lymph nodes were of sufficient size to cause pressure upon the recurrent laryngeal nerve, and the second in which spasm was reflex due to some change in the lung structure. In the case reported, a boy, one year old, broncho-pneumonia attacked both lungs. Dyspnœa became so serious that intubation was found necessary. No disease of the throat appeared. Death occurred on the sixth day.

At the autopsy, no deviation from the normal was found in the larynx, except two small ulcers over the cricoid cartilage, due to pressure of the tube. Considerable disease of the lungs was present, but the lymph nodes were not large. The child was rachitic.

The writer believes that temporary intubation is best, as it does not produce ulcerative changes. M. D. L.

Fallacies in Regard to the Singing Voice.

Under this title Dr. Floyd Muckey, of New York, in the *Pacific Medical Journal*, March, 1897, attacks the views of Drs. Curtis and Frank Donaldson, as set forth by the latter. (See LARYNGOSCOPE Jan., 1897, p. 64).

Dr. Muckey discusses the laws which govern the vibration of strings, reeds and flutes, and shows that, as held by physicists of authority, the voice is a string instrument, the action of a string and reed while vibrating being essentially different, because the reed is free at one end, while the string is attached at both ends. The vocal cord is also attached at both ends, and in this respect resembles the string. As a conclusive proof that the vocal cords vibrate as strings, the resonator of Holleck demonstrates that they vibrate, like strings, in segments, which produce the overtones of stringed instruments, and, moreover, to get this series of overtones *the segments must always be equal;* but, according to the diagrams given in Dr. Donaldson's article, the vocal cords divide into unequal segments, which would render it impossible to get the series of overtones which really belong to the voice and constitute its "timbre" or "klang."

While agreeing that many throat troubles are caused by a faulty mechanism, Dr. Muckey maintains that his experiments made in connection with Prof. Halloes, of Columbia University, demonstrate that this faulty mechanism consists of the strong contraction of the extrinsic, especially the soft palate, tongue and contracted muscles of the pharynx. Any exercise that will keep the extrinsic muscles in position of rest while a tone is being produced, will be beneficial; hence, Dr. Donaldson's instruction to elevate the upper part of the chest and keep it fixed in that position, is erroneous.

Dr. Muckey severely criticizes Dr. Curtis' work on "Voice Building and Tone Placing," and, while admitting that it contains some very good suggestions, believes that the profession should not allow it to pass muster as a scientific work on the voice simply because it is written by one supposed to be *au fait* on the subject. F. B. E.

A Case of Paralysis of the Left Recurrent Laryngeal Nerve, Due to Aortic Aneurism.

Dr. A. B. McKee (*Occidental Medical Times*, Jan., 1897) reports the case of a German, æt. 40 years, who complained of hoarseness, the voice being reduced to a coarse whisper, coughing and sneezing aphonic, excluding hysteria. Patient claimed to be in perfect health save a slight soreness in the thorax.

The larynx was found with left cord fixed in the cadaveric position, its free border irregular and undermined. Position remains unchanged during phonation, although the arytenoid cartilage makes short tugging movements. The right cord moves rather freely.

Examination of the thorax shows visible pulsation at several points, especially in the supra and infra-clavicular regions, and in the left axillary line. The apex beat is three inches to the left of the mammary line, and a distinct bruit is heard transmitted to all parts of the thorax.

F. B. E.

Removal of Foreign Bodies from the Œsophagus.

The improvement in the application of the X-rays has extended to such a point that the location of coins, etc., in the œsophagus has become an easy matter (*Bulletin de l'Acad. de Med.*, Dec. 8, 1896). Foreign bodies as large as 15 millimeters are easily swallowed by children. They are usually arrested at the narrowest portion of the œsophagus, and, if they stand upright, it is difficult to recognize their presence by the usual methods. If the children continue to drink and swallow, and do not complain of pain in these cases, radiography is of great advantage, as it shows the exact location of the object. An incision down to the œsophagus will then allow the object to be forced upwards and extracted through the mouth, thus avoiding an incision into the organ, and not interfering with alimentation afterwards.

W. S.

The Relation of the Pituitary Body to the Pharyngeal Tonsil.

In a most interesting editorial upon acromegaly and giantism, Dr. Wood Hutchinson (*Medical News*, Jan. 16th, 1897) calls attention to the observations of Virchow and others, to the fact that muscular strength is markedly increased in acromegalic subjects. This change, however, is followed by a rapid decline.

He mentions two cases of giant strong men and wrestlers, both of whom broke down and rapidly developed into well-marked cases of acromegaly, with characteristic symptoms. In examining the craniums of dwarfs and giants, the pituitary fossa of the former is as emphatically diminished in size, in proportion to the cranial circumference, as it is increased in the giant.

From this observation the supposition is deduced, "that they are actually the opposite extremes of the same process." Another probable clinical connection has been suggested, and that is: "whether the extraordinary disturbances of growth and general nutrition in children, associated with adenoids in the vault of the pharynx, may not in some way depend upon the fact that this "pharyngeal tonsil" is embryonically, simply the lower portion or stalk, of the pituitary body, from which it has become separated by the ossification of the base of the skull." In early life it has been found that a fibrous cord runs up through the body of the sphenoid, connecting the two glands. It is supposed that structures which were primarily in sympathy with one another, always maintain some reflex influence in a similar manner." Observers claim that simple obstruction to respiration or other mechanical effects of these growths do not satisfactorily account for the great "disturbances of nutrition, both bodily and mental, associated with them and relieved by their removal." Harrison Allen, Osler and Dana believe in this "pituitary reflex." M. D. L.

Pulsating Vessels in the Pharynx.

According to P. McBride (*Edinburgh Med. Journal*, Dec. 1896), abnormal pulsation in the pharynx is not common. He has observed but three instances in his practice. In one of his cases, a lady 67 years old, the presence of a nasal polypus caused the patient to consult him. On examining the pharynx, he found that the right and left posterior pillars of the fauces pulsated. By digital examination he was able to trace a large arterial trunk across the posterior wall of the pharynx. There was a systolic but no diastolic bruit.

The second case was that of a man who showed a fluctuating and pulsating tumor in the region of the tonsil, which was eventually operated upon and proved to be a cyst. In the third case, the pulsation was an anatomical abnormality and appeared in a female, 61 years old. She complained of a hissing tinnitus. In this case there were epigastric and episternal pulsations. A systolic aortic murmur, with accentuated second sound, was also heard. Carotids, subclavians, axillary and brachial arteries showed marked pulsation. In the right forearm the radial artery was seen pulsating half way down the forearm. This peculiar symptom extended along the course of the vessel. Pulsation was also present on abdomen and legs. There was a tendency to diffused but patchy dilatation of the capillaries. There was some albuminuria, which diminished to a trace on milk diet; pulsation in the throat was seen at the junction of the posterior pharynx, with the lateral walls on each side. On the right side the pulsation was communicated to the tonsil. The author believes that the vertebral artery may appear upon the posterior wall of the pharynx, as the vessels he observed were of larger size than the usual ascending pharyngeal. The cases of Barber, Farlow and Knight are mentioned.

M. D. L.

OTOLOGICAL.

Meniere's Disease.

Before the Austrian Otological Society, Dr. Kaufman reports a case of real Ménierè's disease which, as remarked by Professor Politzer, was very similar to the first case observed by Ménierè. The patient, a woman aged 31, under the care of Dr. Gruber, had always been healthy. One evening she hurried into the theatre, and while warm drank some water. On her way home she observed a noise in her ear; she woke suddenly in the middle of the night with violent dizziness, vomiting, intense noise, and complete deafness in the left ear. Vomiting was repeated during the next three days at least six or eight times a day, and the vertigo was so severe that for twelve days the patient was unable to leave her bed.

The appearance of both tympanic membranes was normal, also the Eustachian tubes. In the left ear there was complete deafness, only deep-toned tuning forks being heard at all by air induction The vertigo was intermittent, especially in the dark, and was very distinct when she moved with her eyes shut. All treatment had been without result, although pilocarpine had just been tried.

Dr. Gruber stated that cases of pronounced Ménierè's disease observed by him were usually bilateral, especially those which came on suddenly with vertigo and deafness. He acknowledged, however, that the case reported was a genuine one. He had never seen any improvement take place in cases in which there was an effusion of blood into the labyrinth. Professor Politzer attached considerable importance in diagnosis to the reaction for deep-toned tuning forks in conjunction with the other symptoms.—*Medicine.* S. S. B.

A Case of Central Otitis of the Mastoid Simulating Neuralgia of the Trigeminus.

This unusual affection occurred in a robust man, seventy-three years old, after an acute inflammation of the middle ear (Dr. R. Spira, Cracow, *Archives of Otology* Vol. XXV. No. 4). The drum was incised, and the symptoms gradually subsided. At the same time severe pain in the neck, larynx and the entire corresponding side of the head set in. A diagnosis of trigeminal neuralgia was made. Iodide of sodium was given internally and galvanism. In a few days paresis of the abducens of the same side was noticed. No fever or cerebral symptoms. The ear and mastoid revealed nothing. At times, during several months, temporary symptoms of irritation in the mastoid region, with decrease of the cephalgia, occurred. After eight months a sub-periostial abscess of the mastoid was opened, and a fistula was found leading to caries and suppuration. The bone was scraped, and the usual antiseptic dressings applied. Recovery took place in six weeks, with complete disappearance of the neuralgic symptoms, and a rapid improvement of the abscess of the abducens. M. D. L.

Auditory Hallucinations.

After describing the origin of auditory disturbances in deaf lunatics, J. Pietersen (*Birmingham Med. Review*, March, 1897) corroborates the statement of Segis, that every case of insanity in which auditory hallucinations can be proved should, without doubt, be regarded as one of the dangerous forms of mental derangement, whatever may be its degree of curability. He further remarks that, in such cases, a prognosis is absolutely impossible and unwarrantable. M. D. L.

Labyrinthine Disease Produced by Large Doses of Sodium Salicylate.

During an attack of acute muscular rheumatism, a female, 40 years of age, took 140 grammes of salicylate of sodium (Dr. Ferd. Alt, *Archives of Otology*, Vol. XXV., No. 4). Tinnitus in both ears appeared, accompanied by dull headaches. While taking the medicine, attacks of vertigo siezed her, during one of which she fell to the right and became unconscious. Tinnitus of the right side was constant. These attacks finally occurred daily. The tuning forks showed decided internal ear disease of the right ear. M. D. L.

Suppurations of the Ear and Their Treatment.

Dr. Paul Rauge states that surgical interference should be made in the following classes of diseases of the ear (*Semaine Med.*, January 11th, 1896):

1. In all cases of chronic otorrhea which are not improved when a careful antiseptic treatment is employed.
2. When the probe shows the existence of osseous lesions, or denuded points, or sequestræ, either of the walls or of the ossicles.
3. When circumstances point to the existence of cholesteatoma.
4. When the hearing is totally lost, and when there is nothing therefore to risk in this direction, and when all the indications point to a persistent suppuration.
5. Finally, surgical interference is not only permissible, but even urgent, when there is the least sign of the possibility of an encephalic complication. W. S.

Respiratory Movement of the Membrana Tympani.

Dr. E. Donaldson, of Edinburgh, from the examination of a case in which there was respiratory movement of the membrana tympani, gives the following conclusions:

1. The whole membrana tympani, or a part of it, may move during respiration through the nose.
2. The movement may be present one day and absent the next.
3. It occurs when the Eustachian tube is unduly patulous. and when the membrane is in part or wholly atrophic and flaccid.—*Lancet*, October 10th, 1896. W. S.

Tuberculosis of the Middle-Ear.

Dr. M. W. Milligan states that there are three ways which may serve for the penetration of Koch's bacillus into the region of the middle-ear: (*a*) the Eustachian tube; (*b*) the lymphatic and blood vessels; (*c*) the external auditory canal when the tympanum is perforated (*Gaz. Med. de Paris*, Jan. 4, 1896). In the majority of cases, tuberculosis of the middle-ear is secondary. The lesions may develop in the Eustachian tube or the tympanum. The clinical characteristics are somewhat uncertain by the sudden appearance of pus without the usual inflammatory signs of other forms of otitis. The drum remains pale and presents a peculiar edematous aspect. Enlargement of the periauricular ganglions are important signs; also abundant discharge, which rapidly becomes fetid, in which may be found fragments of tissue, indicating profound disorganization within the middle-ear.

If these signs are wanting, or are not marked, recourse should be had to bacteriological examinations, or to the inoculation of animals. An operation should be undertaken early, and consists in free ablation of all the tubercular products. In some cases, however, the application of chloride of zinc seems to give good results. (The bacteriological examination of cases of tubercular disease of the middle-ear is an important diagnostic measure, and should not be neglected regardless of the prominence of the clinical signs.—SCHEPPEGRELL.)

The Serum Therapy in Ozena and in Certain Forms of Purulent Otitis.

Dr. Gradenigo states that the microbian theory of ozena is gaining ground. (*Ann. des Mal. de l'Oreille, du Larynx, etc.*, Aug., 1896). To the encapsulated diplobacillus of Lowenburg has been added the *bacillus mucosus* of Abel, and more recently the bacillus of Belfanti. The latter micro-organism presents characteristics in its culture and in its pathogenic effects similar to that of the pseudo-diphtheritic bacillus. Belfanti and Pella-Vedova recommend the treatment of ozena by the anti-diphtheritic serum.

The results which they have obtained appear encouraging. The author divides ozena into three classes: the first dependent upon hereditary syphilis; the second upon tuberculosis; and the third appears to be independent of any diathesis. In regard to acute otitis media, in which the true diphtheritic bacillus is in the throat, the serum therapy is, of course, indicated. In certain cases of chronic otitis observed in connection with ozena, the effects of this inoculation also appear to be good. W. S.

Contribution to the Study of Intracranial Affections Originating in the Ear.

This was the subject of a communication by Professor Gruber to the Austrian Society of Otology. Desiring to elucidate certain points relative to the topical diagnosis of intracranial complications of aural origin, Professor Gruber had caused to be analyzed 40,073 cases of patients dying in the Vienna Hospital since January 1, 1873 (the year of the foundation of the Otological Clinic), to December 31, 1894. Of these 40,073 cases, 1806 (1242 men and 564 women) died of intracranial disease. Of this number, 232 cases were due to disease of the ear (163 men, 69 women)—12.8 per cent of the deaths caused by intracranial disease or 0.58 per cent. of the total number of deaths (40,073).

Of the deaths consecutive to disease of the ear, most occurred in persons between the ages of 10 and 50 years. Children less than 6 years of age are not received into the General Hospital of Vienna, but are sent to a Children's Hospital.

The right side was affected 118 times (50.87 per cent.), the left side 103 times (44.39 per cent.), both sides simultaneously 6 times (2.59 per cent.), and the side was not designated in 5 cases. Suppurative otitis media was complicated with caries in 167 cases (128 men, 39 women), caries was absent in 65 cases (44 men, 21 women). The sinus was affected (1) in purulent otitis media without caries, there being 42 cases of thrombosis of the sinus (in 24 thrombus was solid, in 18 it was purulent); (2) in purulent otitis media with caries, there being 106 cases of thrombus of the sinus (in 64 the thrombus was solid, in 42 it was purulent). The sinuses most frequently involved were the transverse and sigmoid—24 times in purulent otitis without caries, 73 times in purulent otitis with caries. Men were attacked 73 times, women 24 times.

As regards the nature of the intracranial disease, three classes of cases must be distinguished:

1. Simple otitis without thrombosis of sinus:
    - Meningitis, 31 cases (21 men, 10 women).
    - Cerebral abscess, 19 cases (14 men, 5 women).
    - Cerebellar abscess, 1 case (woman).
2. Otitis with thrombosis:
    - Meningitis, 12 cases (7 men, 5 women).
    - Cerebellar abscess, 5 cases (2 men, 3 women).
3. Cases with caries without thrombosis:
    - Meningitis, 43 cases (36 men, 7 women).
    - Cerebral abscess, 13 cases (12 men, 1 woman).
    - Cerebellar abscess, 12 cases (8 men, 4 women).
4. Cases with caries and thrombosis:
    - Meningitis, 21 cases (17 men, 4 women).
    - Meningitis with cholesteatoma, 8 cases (6 men, 2 women).
    - Cerebral abscess, 7 cases (6 men, 1 woman).
    - Cerebellar abscess, 4 cases (2 men, 2 women).

The second class (otitis with thrombosis) caused 16 deaths from pyæmia (11 men, 5 women); the fourth class (otitis with caries and thrombosis) occasioned 32 deaths from pyæmia (22 men, 10 women). —*The Medical Bulletin.* S. S. B.

Acute Purulent Otitis Media Complicated by Petro-Pharyngeal Abscess.

This infrequent complication presented itself in a male patient, 40 years of age, during the course of an acute suppurative inflammation of the middle-ear. (Dr. F. L. Stillman, Columbus, O., *N. Y. Med. Journ.*, Feb. 6, 1897). Severe hemicrania became a prominent symptom, and the patient complained of difficulty in rotating the head, locating the stiffness in the back of the neck. On account of some cerebral symptoms—sluggishness of mental activity, and drowsiness—a surgeon was consulted. No diagnosis was arrived at. The symptoms progressed, and, as a cerebral abscess was feared, another consultant was called in. No cerebral abscess could be discovered, but the symptoms were accounted for by the possible presence of a localized meningitis. Suitable medication was prescribed. Patient stated that opening of the jaw caused a feeling of pressure in the ear. Five days later, swelling of neck in front of sterno-mastoid muscle was noticed. Painful deglutition existed; attention being drawn to the throat, the left half of the soft palate was seen to be affected. Swelling of this region became more marked, and same was lanced, but no pus was evacuated. Hot applications were applied. A few days later inflation, by means of Politzer bag, was attempted, and a sudden gust of pus from the ear was observed. The patient remarked that something broke in his head. The finger was introduced behind the palate, and pressure upon the swelling in this region caused pus to flow freely from the external auditory canal. An abscess in the left tonsil also opened spontaneously, and the patient made a good recovery. The author thinks that the pus traveled along the sheath of the tensor tympani muscle. M. D. L.

BOOK REVIEWS.

Diseases of the Ear, Nose and Throat and Their Accessory Cavities. A Condensed Text-Book. By Seth Scott Bishop, M.D., LL.D. Illustrated with 100 Colored Lithographs and 168 Additional Illustrations. One Volume, Royal Octavo, pages xvi-496. [Philadelphia: The F. A. Davis Co., Publishers, 1914 and 1916 Cherry Street. Extra Cloth, $4.00, net; Sheep or Half Russia, $5.90, net.

The demand, by general practitioners and medical students, for a book on diseases of the ear, nose and throat, concise and not too classical, have been fully met in the present volume. The author does not claim for it recognition as a classic, but presents a concise, practical and up-to-date work, which should be most acceptable to the many general practitioners who are called upon to treat diseases of the ear, nose and throat; the specialist, as well, may glean many valuable points of information after a careful perusal.

Subjects which have gained recent prominence are treated in greater detail. The present status of diphtheria and the antitoxin therapy, the management of mastoid diseases, the treatment of hay fever, the technique of intubation, are given special consideration.

Many of the latest improvements in apparatuses and new instruments are described and illustrated. The volume contains many excellent original illustrations. The typography is good, and the arrangement and index practical and convenient. The author has produced a comprehensive work, which contains all the essentials to an understanding of these specialties.

Diseases of the Upper Respiratory Tract. The Nose, Pharynx and Larynx. By P. Watson Williams, M.D., London. Illustrated. 8vo., pp. 282. [Bristol, England: John Wright & Co. New York: E. B. Treat, 1895. Price, $2.25.

The author intends his book to be an introduction to the study of diseases of the upper respiratory tract. It is not expected that it will take the place of the more ponderous tomes, as it does not enter into sufficient detail. While the author does not lay claim to much originality in his work, yet it is plain to the reviewer that he is over-modest in this respect. The frontispiece, a vertical mesial section, is one of the best we have ever seen. Five excellent colored plates and one hundred and twenty other illustrations greatly assist in elucidating the text. The various subjects are concisely treated. The work will amply repay the special practitioner for its purchase; but will be especially valuable to the general practitioner and student.

Atlas of Diseases of the Mouth, Nose, and Naso-Pharynx. By Dr. L. Grünwald, Munich. Small 8vo., with 31 Excellent Plates and 96 Chromo-Lithographic Illustrations. J. F. Lehmann & Co., Munich. 1897. Price, in cloth and gold, $1.50. American agents, Lemcke and Buechner, 812 Broadway, New York.

This is a companion volume to the very excellent *Atlas of Diseases of the Larynx* by the same author and publishers.

Sixty-nine well-executed chromo-lithographic plates illustrate the pathology of this series of diseases in an admirable manner, and a brief explanation accompanies each cut; while written in German, the atlas should be perfectly acceptable to English readers, as there is but little text in the volume, the efforts of the author being rather a presentation of the pathological pictures encountered. It is an excellent small atlas at a very moderate price.

Bureau of the Medical Press. We are pleased to announce that the Bureau inaugurated by Mr. Charles Wood Fassett at the last meeting of the Mississippi Valley Medical Association, proved such an unqualified success, that it will be continued at the golden anniversary of the American Medical Association in Philadelphia, June 1 to 4. A catalogue will be issued containing a descriptive index to the medical periodicals and reference books contained in the Bureau, and advertising matter of various kinds will be distributed for members.

The Laryngoscope will be found on file at this Bureau, and our friends in attendance at this meeting are cordially invited to make the Bureau their headquarters. They will find plenty of good reading matter, medical dictionaries, and the latest reference books, as well as writing materials and a stenographer for use of visitors.—Ed.

The Cleveland *Medical Gazette* is one of the brightest journals that comes to our office. It well represents the Ohio metropolis, which is fast coming to the front as a great medical center. The *Gazette* is ably edited, well managed, and is liberally clothed by its publishers, and to these facts may be attributed its success.

A Country Doctor. By T. H. Shastid, M.D. Reprint *Jour. Am. Med. Assoc.*, 1887.

The Retrospect of Practical Medicine and Surgery. A Half-yearly Journal. Edited by James Braithwaite, M.D., London. Volume CXIV. January, 1897, pp. 435, [New York: G. P. Putnam's Sons, 1897. Price, $1.50.

This is a continuation, in book form, of the well-known Braithwaite's Retrospect. It is a practical digest of many of the more worthy articles that have appeared in the various medical journals. We note the entire absence of a digest of the many excellent articles that have appeared on diseases of the nose.

The International Medical Annual and Practitioner's Index. A Work of Reference for Medical Practitioners. 1897. Fifteenth Year. [New York: E. B. Treat & Co. Pp. 724. Price, $2.75.

The fifteenth issue of this well-known annual contains an admirable digest of medical progress in 1896. We notice among the prominent contributors to the volume representing the departments of ear, nose, and throat diseases, the names of Drs. J. Dundas Grant, P. Watson Williams, W. A. Lane, and Henry Suvill, Walter J. England, F. de Havilland Hall.

Under the section "New Treatment" appears an excellent resumé of Empyema of the Antrum, with descriptive cuts of the most approved method of treatment.

In the treatment of chronic sup. ot. med., tinct. iodi, balsam peru or tulo, silico-fluaride potassium, and trichloracetic acid receive attention. Liquid vaseline injected through the Eustachian tube, massage of the tympanum, and the application of the Eustachian bougie are recommended in the treatment of non-sup. ot. med. chr.

For the treatment of acute otitis med., carbolized glycerin (10 to 20 per cent.) instilled warm into the ear is highly recommended. Early paracentesis is advised in all cases, excepting where there is advanced tuberculosis or marked diabetes. Following spontaneous or artificial evacuation of the secretion, a veto is placed against inflation of the middle ear, but attention is carefully directed to treatment of nose and throat.

Under the chapter on "Insanity" appears an excellent series of plates, illustrative of deformities of the ear in the consideration of degeneracy and mental affections.

An excellent chromo-lithographic plate, illustrating the clinical pictures found in tuberculosis, syphilis, and cancer of the larynx, accompanies a short article on laryngeal growths and their treatment.

The volume contains many other valuable suggestions of interest to the otologist and laryngologist.

Practical Pathology. A Manual of Labaratory and Post-Mortem Technic, designed especially for the use of Students in Pathology and Physicians. By A. S. Warthin, Ph.D., M.D. 8vo., 130 pages, cloth. George Wahr Publisher, Ann Arbor, Mich. Price, $1.50.

This volume is distinctly a practical guide to the pathological laboratory and post-mortem room, and as such admirably meets all requirements.

Each section of the subject is dealt with in a clear and brief manner. Space is allotted to post-mortem examination of ear, larynx, nose, and accessory cavities.

It contains more practical information in less space than any volume of its kind we have yet seen.

The Diseases of the Nose, its Accessory Cavities, and of the Naso-Pharynx. (*Die Erkrankungen der Nase, deren Nebenhöhlen und des Nasenrachenraums.*)—By Dr. Carl Rosenthal, of Berlin. Second edition. [Berlin, 1897: A. Hirschwald. Price, $2.

The first edition of this compendium appeared a few years ago. No better proof of its utility could be furnished than the fact, that a second edition became necessary so soon. This is not often the case with text-books referring to a specialty in which there is no lack of text-books of every kind, from the large two-volume handbook down to the pocket quiz compend of limited pretensions. Rosenthal has intended his book more for the general practitioner who is in search of reliable information in rhinology, than for the specialist, although the latter, especially in his early apprenticeship, will find this book to be a reliable guide to the study of diseases of the nose and naso-pharynx; and even the experienced specialist may with profit consult this little work for reference or repetition regarding some points about which he desires some quick and trustworthy information. This is probably the cause of the popularity of this book, that all the most important and well-authenticated facts of modern rhinology are clearly described, without going too much into specialistic detail, and omitting all such theories, modes of treatment and operations, which have either but historic interest, or which are open yet to doubt. It is for this reason a book that will most strongly appeal to physicians who, without being specialists, are in the habit of treating the more common diseases of this region, and who in doing so wish to keep abreast of the times.

The book is divided into three parts, the first part treating of the diseases of the nose proper, the second of those of the accessory cavities, and the third of the diseases of the naso-pharynx. The author describes all the different affections in a clear and direct style, avoiding to dwell upon rare and unimportant conditions, and giving good and sufficient descriptions of symptoms, differential diagnosis, and treatment. Two very valuable chapters, not always found in books of this kind, are those on skin-diseases of the nose, and on affections of the nose during the course of acute infectious diseases. There are many excellent points in other chapters, *e. g.*, that on acute coryza in the new-born. R. is of the opinion that a gonorrhœic infection of the nasal mucous membrane is not so rarely communicated to the child, as many authors seem to believe. In the treatment of hypertrophic rhinitis he is right in warning against unnecessary and too extensive operations and cauterizations. The galvano-caustic batteries which he mentions, are, in this country at least, probably everywhere superseded by the use of storage batteries, or, whenever feasible, by current controllers (for either the alternating or continuous current). He recommends also the use of astringents in hypertrophic rhinitis; and the posterior tamponade of the nose in cases of epistaxis, which cannot be checked by the anterior tamponade within twenty-four hours. These two points will probably not be accepted by many American rhinologists. But with a few exceptions the book is full of good, sound, and reliable advice, and can be safely trusted as a guide. The second edition is fully up-to-date, and will, no doubt, find many friends. M. T.

Anomalies and Curiosities of Medicine. Being an Encyclopedic Collection of Rare and Extraordinary Cases, and of the most Striking Instances of Abnormality in All Branches of Medicine and Surgery, derived from an Exhaustive Research of Medical Literature from its Origin to the Present Day, Abstracted, Classified, Annotated, and Indexed. By George M. Gould, A.M., M.D., and Walter L. Pyle, A.M., M.D. Imperial Octavo, 968 pages, with 295 Illustrations in the Text, and 12 Half-tone and Colored Plates. [Philadelphia: W. B. Saunders, 925 Walnut Street; 1897. Prices: Cloth, $6.00 net; Half Morocco, $7.00 net. *Sold only by subscription.*

The publication of this valuable volume creates a new department of medical literature, as it is the first attempt at so extensive a collection of anomalies and abnormalities yet undertaken. The work covers so extensive a field, that it cannot fail to interest every class of medical readers. Every branch of medicine and surgery has contributed its quota to the interesting pages, and every source of information seems to have been utilized in acquiring an exhaustive research.

The excellent typography of the volume, the illustrations, half-tones and colored plates are special features, and reflect highest credit on the publisher.

The readers of THE LARYNGOSCOPE will find of especial value the many interesting chapters on malformations, peculiarities, accidents and anomalies of the ear, nose, lip, palate, uvula, tongue, trachea and esophagus, in their many and varied forms, with numerous striking illustrations to emphasize and elucidate the text.

BOOKS AND PAMPHLETS RECEIVED.

Laryngeal and Post-Nasal Photography with the Aid of the Arc Light. By Thomas R. French, M.D., Brooklyn. Reprint *N. Y. Med. Jour.*, Jan. 23, 1897.

Nasal Sarcoma Cured by Operation. By G. Melville Black, M.D., Denver, Colo. Reprint *N. Y. Med. Jour*, Aug. 15, 1896.

Nasal Obstruction. By Clement F. Theisen, M.D. Reprint, *Albany Med. Annals*, Vol. 18, No. 5.

A Remarkable Case of Fibro-Chandroma of Bronchial Origin. By A. W. de Roaldes, M.D. Reprint, *N. Y. Med. Journal*, Feb., 1897.

Report of a Case of Incomplete Fracture of the Left Cornu of the Thyreoid Cartilage, Resulting from Self-Inflicted Violence. By A. W. de Roaldes, M.D. Reprint, *N. Y. Med. Journal*, Feb., 1897.

Unusual Mobility of the Tongue. By M. D. Lederman, M.D. Reprint, *N. Y. Polyclinic*, March 15, 1897.

The Abdominal Type of Respiration as often Employed in Singing. By O. J. Stein, M.D. Reprint, *Journ. Am. Med. Ass'n.*, March, 1897

A Case of Unusual Laryngeal Growth. By J. W. Gleitzmann, M.D. Reprint, *N. Y. Med. Jour.*, Oct., 1896.

Diseases of the Accessory Sinuses of the Nose, with Demonstration of Specimens, Drawings and Instruments. By J. W. Gleitzman, M.D. Reprint, *Annals Ophth. and Otology*, Vol. V., No. 2.

Traumatic Perforation of the Membrana Tympani. By Lewis S. Somers. Reprint, *Phila. Polyclinic*, Vol. 6, No. 10.

Eucaine Hydrochlorate as a Local Anesthetic in Hypertrophic Rhinitis. By Lewis S. Somers. Reprint, *Therapeutic Gazatte*, January, 1897.

The Proposed City Hospital for Consumptives. By W. Freudelthal, M.D. Beprint, *N. Y. Med. Jour*. Feb., 1897.

Ein Nasenbeutel. By Dr. W. Freudenthal, M.D. Reprint, *Archiv. f. Laryngologie*, Vol. 4, No. 2.

Third Report of the Home for the Training in Speech of Deaf Children. Philadelphia, 1896.

THE

LARYNGOSCOPE.

VOL. II. ST. LOUIS, MO., JUNE, 1897. No. 6.

ORIGINAL COMMUNICATIONS.

ADENOID VEGETATIONS.*

BY ELLET ORRIN SISSON, M.D.

Professor of Anatomy and Demonstrator of Histology, Pathology, and Bacteriology,
College of Physicians and Surgeons, Keokuk, Iowa.

Perhaps no one subject has received more attention at the hands of the rhino-laryngologist within the last few years than hypertrophies of the pharyngeal tonsil, or, as they are commonly called, adenoid vegetations. Although, according to literary researches, hypertrophies of the pharyngeal space have been known to exist since the time of William Hunter, it was left for that acccomplished specialist, Meyer of Copenhagen, to demonstrate the frequency and clinical importance of these hypertrophies of Luschka's tonsil. There are several reasons why such an interest should be manifested; but there are three principal ones, the three that exist in connection with many other pathological conditions, which go to make the study of them interesting, and our efforts for their relief fascinating and satisfactory. They are, viz.: first, the common occurrence of the condition; second, the great extent of the pathological influence exerted by it; and third, the realization of the fact that there exists a plan of relief, which if followed out is bound to be productive of good results. Before passing to a consideration of the subject proper, I will state that it is not my intetion to dwell at length upon the measures adopted for the cure of such conditions, although, as previously stated, they are well nigh perfect, and a complete resumè would be interesting; but I would rather call your attention to the etiology, pathology, and complications accompanying, or resulting from, this now easily recognized and important pathological condition.

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*Read before the second annual meeting of the Western Ophthalmological, Otological, Laryngological, and Rhinological Association, St. Louis, Mo., April 1897.

ETIOLOGY.

Sajous says: That "the origin is probably traceable in all cases to a catarrhal state of the naso-pharynx, the causes of the latter being therefore the primary etiological factors." He does not state what these primary etiological factors are, but the reader is left to infer that they are the ones usually catalogued. Repeated attacks of acute posterio-nasal pharyngitis, occurring independently or simultaneously with acute inflammatory affections of the anterior nasal cavities, the exanthemata and a diathesis. From an embryological standpoint, the rhino-pharyngeal tonsil is the earliest to appear, the palatal next, and the lingual the last of all. In like order to these, undergo atrophy, but sometimes they persist later than the time specified, and then they interfere with the actions of the nose, throat, or ear. Their persistence or refusal to atrophy being brought about undoubtedly by the disturbances previously mentioned, as all leucocyte manufacturing organs, which are most developed and active during the period of growth, are more liable to hypertrophy on even slight irritation during early years of life. Hill advances the theory "that the adenoid overgrowth is due to the prevention of the normal tonsillar function of leucocyte migration, by diapedesis into the pharynx, by reason of the thickening and impermeability of the mucous covering of the tonsil, induced by contact with irritating contaminations of the nasal secretions." Whether we care to accept this theory or not, a microscopical examination of these overgrowths go to prove that they are not neoplasms, but merely hypertrophies from the mucous aspect of the glands.

MICROSCOPICAL APPEARANCE.

They are composed of lymphoid folicles embedded circumferentially in the retiform adenoid tissue of His, and are bounded apically and laterally by columnar ciliated epithelium; cilia, however, are often absent at points of frequent contact or of friction with the soft palate. The only respect in which these vegetations differ from an enlarged tonsil is that in the latter there is a great amount of connective tissue, due to the irritation produced by the passage of food, etc., whereas the vegetations from their situation are protected from these injurious influences. Adenoid vegetations of adults contain a considerable quantity of fibrous tissue, having undergone a fibrous change, as it were.

SYMPTOMS.

The symptoms are ones that we would naturally expect from a filling up, more or less completely, of the naso-pharynx. Mouth breathing, with all its attendent evil results; we have respiration, audition, voice production and articulation interfered with, and, aside from these important disturbances, we have a greater evil accompanying them, and one which is attracting the attention of investigators, viz.: their effect on the function of cerebration. Those who have studied the conditions are agreed that the obstruction to respiration, or other mechanical effects of these growths, are utterly inadequate to account for the tremendous disturbances of nutrition, both bodily and mentally, associated with them, and relieved by their removal. Recently Dr. Harrison Allen has called attention particularly to the form of mental impairment and defective intelligence, simulating idiocy, which accompanies even a moderate increase of adenoid tissue in the region alluded to, and advances this hypothesis explanatory of the etiology. He points out the histological resemblance between the lower portion of the pituitary body and the pharyngeal tonsil, both being glandular in character, and shows anatomically a connection by means of a canal, which closes during fœtal life, by which the top of the pharynx communicated with the interior of the skull, so that these masses of glandular tissue must have originally formed a portion of the original pharynx. Piersol, in his description of the pituitary body, refers to the anterior lobe as the anterior oral, and tells us that it is entirely distinct from the posterior lobe in structure and in development, since the anterior lobe is derived as a diverticulum from the primitive oral cavity, and, as such, is lined with the oral ectoderum. Dr. Woods Hutchinson, of Buffalo, recently, in an able article on "Acromegaly and Giantism," says: "Not infrequently in early life a fibrous cord runs up through the body of the sphenoid, connecting the two glands, and it is not unreasonable to suppose that structures that were originally continuous may yet retain reflex sympathy with an influence upon each others conditions." To say that such authorities as Dana and Osler have endorsed these statements only serves to increase their value. The results of this reflex, if such exists, are apparent to every neurologist. May it not be manifested in the backwardness and stupidity observed in the majority of children suffering from these conditions? The child has great difficulty in keeping up with his classes in school and is looked upon as being dull, and, as a result, is held accountable for that which he cannot help. Harrison Allen even goes so far as to venture the opinion that there are many children in homes for the feeble-minded and idiots throughout the land who are victims of this condition, and who, possibly, could be restored to usefulness and to their families by a comparatively trifling operation. Interference with the audition may or may not complicate the case; much depends on the relation of the Eustachian orifice to the vault of the pharynx. If the orifice be situated high up, a comparatively small amount of growth will block it and cause auditory troubles; whereas, if it be low down, there may be extensive vegetations without the Eustachian tube being implicated. If this symptom does present itself, and statistics go to show that it does in the majority of cases, it is the one, as we all know, that first attracts the attention of the parents, and the child is brought to us to be treated for deafness. It may be accompanied or not, as the case may be, with purulent discharge from the ears. At times the child has violent attacks of earache. There is one more symptom or complication that I wish to call your attention to before I leave this part of the subject, and that is the interference these hypertrophies exert in connection with the function of voice production and articulation. The voice has a dead, muffled sound, with a marked nasal twang, and inability to pronounce m, n, and ng.

Brown tells us that "in many cases of deaf mutism these growths are found." Dr. G. Hudson McCuen reports a very striking case of defective speech; the patient was, in fact, almost dumb. It was very near impossible for him to pursue his studies at school, or for his teachers to know what was going on in the child's mind. Adenoids were diagnosed, an operation performed, which resulted in the removal of a large mass of adenoid tissue from the vault of the pharynx. The child was taken into training by his mother under the doctor's direction, with the result that in a short time he was able to read clearly, and answer questions promptly and correctly. And it might be interesting to say here that Lennox Browne, of London, records two cases in which persistent recurrence of laryngeal neoplasms in children had been stopped after recognition and removal of adenoids. He is also responsible for the statement that these growths may be the cause for much infantile laryngitis, to be followed in a certain proportion of cases by the development of neoplastic tissue.

DIAGNOSIS.

The diagnosis, as well as the prognosis of adenoids, we have brought out incidently in our review of the symptoms and complications, and, further than a mere mention of the two methods employed in the diagnosis, we pass to the treatment. The two methods alluded to are, as you all know, posterior rhinoscopy and a digital examination of the naso-pharynx. For the reason that we have to deal with children in the majority of instances the former method is impractical, and we have to resort to the latter as furnishing the only reliable way of ascertaining the existence and extent of the growths. In conducting this examination it is well to always practice two things: First, to protect the metacarpo-phalangeal joint and digit of the index finger by a guard, extemporized or otherwise; and second, practice strict asepsis, particularly if an operation is contemplated. Immediately following the examination scrub the finger thoroughly, and have the nail clean before introducing it up into the naso-pharynx.

TREATMENT.

In regard to the treatment, as previously stated, it is not my intention to give a complete resumé of the methods employed, for each operator has his own favorite method; and each one, undoubtedly, possesses its advantages. I will simply outline briefly the steps in the operation I make, and which has yielded me very satisfactory results, with the hope that you will bring out any modifications or suggestions that you may see fit. That vexed question as to whether an anæsthetic should be given seems to have been about settled by the different authors, they having come to the conclusion that it is best in children to give one. First, because they are unmanageable to a greater or less extent without it, and a more thorough and satisfactory operation can therefore be performed when it is used. Second, the danger attending the giving of an anæsthetic in children is so slight, and complete anæsthesia is never required. In individuals above puberty so many things arise to modify the question that the operator should exercise his own judgment as to whether a complete removal under an anesthetic or repeated sittings is desirable. Again, the position of the patient during the operation has provoked much discussion, some preferring the sitting, the same as for tonsillotomy; others the recumbent; the latter seems to me to be the most desirable, for as soon as the operation is completed the patient's head is hanging over the table, and the blood is passing through the nose and mouth, thus avoiding all danger from its running down the trachea. When the child is anæsthetized, and the mouth-gag inserted (preferably Denhard's), it is a question of a very few seconds to tear out the larger portion of the growth with the forceps. I use Gradle's model, or Casselberry's. The former, I noted in a recent visit to the nose and throat department of the New York Eye and Ear Infirmary, is the one adopted and highly recommended by such men as Mayer and Asch, and is used exclusively in all their adenectomies. After removing the larger portion of the growth with the forceps, I follow up with a thorough curetting, using Gottstein's antero-posterier curette. The after-treatment is simple: some efficient and pleasant antiseptic should be used as a gargle and mouth wash, and the patient kept on a liquid diet for a few days.

CONCLUSIONS.

In summing up, let me again repeat the statement made in the outset, that the object of this paper is to impress upon you the importance of this condition by reference to some of its complications, for the fear that our familiarity with the methods adopted for its cure, together with their common occurrence, will cause us to pass it by too lightly. Therefore, in conclusion, allow me to sanction and urge the adoption of a measure suggested by Dr. Hannan W. Loeb, one of the leading specialists of this city, in a recent article on this subject, viz.: That the State should provide for the examination of all school children with a view of correcting this common affection and the symptoms which it occasions; and I would add that the teachers in our public schools be taught to recognize this condition, and be instructed to report all cases of mouth-breathing children to a physician, or board of physicians created for that purpose, for examination.

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The Comparative Value of Eucaine and Cocaine as Local Anæsthetics.

Experiments carried out by M. Reclus give the following result:

1. That the injection of cocaine is not at all painful, while that of eucaine causes a certain smarting sensation.

2. Eucaine is a vaso-dilator, while cocaine is a vaso-constrictor. With the former the field of operation is clouded by the blood.

3. Eucaine is certainly an excellent analgetic, although in deep operations the perception of pain seems to be somewhat more distinct than with cocaine.

4. In an operation with cocaine, anæsthesia is still complete an an hour and ten minutes after the operation, while with eucaine it disappears after forty-five minutes.

He preferred cocaine, as it presented warning symptoms of intoxication, while eucaine overcame the patient without any premonitory signs.

M. D. L.

EARLY DIAGNOSIS OF EPITHELIOMA OF THE LARYNX, WITH REPORT OF A CASE.*

BY WENDELL C. PHILLIPS, M.D., NEW YORK.

B. S. E., aged 63, a clergyman. Referred to me by Dr. H. D. Zandt, of Jamesburg, N. Y., September, 30, 1896.

History.—Has been a man of vigor and activity, and always able to perform the arduous duties of his calling without disturbance of voice until five months ago. Has never been conscious of marked symptoms of catarrh in any portion of the respiratory tract, and does not take cold easily or frequently.

Four months ago he began to notice a very slight huskiness of voice, which gradually increased up to the time of examination, but it never became severe enough to prevent him preaching three times each Sunday.

At this time his voice was husky, but perfectly audible, and could easily be heard at a distance.

He had no cough, no expectoration, no loss of flesh or appetite, and no pain. Phonation even was unattended by pain. He had recently felt a very slight tenderness, which he located about in the region of the left tonsil. He thought, though he was not sure, that his trouble was located in the left side of his throat. Practically, aside from the mere huskiness of his voice, he was as well as he had ever previously been.

Examination.—Aside from a small ecchondrosis his nasal cavities were in a nearly normal condition.

There was a very moderate amount of inflammation of the post-pharyngeal wall, of a subacute character. The tonsils were quite normal in appearance, very slightly enlarged, and palpation did not show the left to be dense, boggy, or in any way different from the right. A careful examination of the glosso-epiglottic fossæ revealed no glandular enlargements or structural changes, and there was no disarrangement of the normal anatomical relations.

The epiglottis was normal, both in appearance and in its mobility.

The arytenoid cartilages were perfectly normal in appearance—no enlargement, no evidences of infiltration or inflammation, and no difference in size or mobility, both doing their work perfectly.

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*Read before the New York Academy of Medicine, Section in Laryngology, Jan. 27, 1897.

The vocal cord and ventricular band upon the right side were also normal in every way, mobility and flexibility being not interfered with, and no infiltration.

The left ventricular band was normal, aside from a very slight flush of congestion, but its mobility was not impaired.

Upon the left vocal cord, at about the junction of the middle and posterior thirds, there were three elevated nodules, resting upon a slightly elevated circumscribed base. Altogether there was involvement of less than one-third of the vocal cord. The base was slightly congested, and there was a very small amount of congestion over the near-by area of cord.

Of the three nodular projections, one was upon the upper surface of the cord, the second upon the approximate surface a little posterior, and the third upon the lower border. They were about the color usually seen in papillomatous growths when seen in this location. They were perhaps a little lighter, being a pinkish-white, and they presented a rather smoother surface. There was no secretion.

Careful examination of the neck externally failed to reveal any glandular enlargement. There was no dyspnœa, no dysphagia, no ulceration, no hemorrhage, and no odor to breath.

There was no pain, no cachexia, and no loss of mobility of the articulations or muscles resulting from infiltration. At the time of examination, and even up to within a few days, I was unable to get any family history of malignant disease, he having said that no such disease had existed in his family for two generations. He has recently, however, learned that one sister died at the age of fifty years with cancer of the breast.

Diagnosis.—With the absence of nearly all the early symptoms usually described as attending or complicating epithelioma of the larynx, a diagnosis of papilloma was made, and endo-laryngeal operation advised. Fortunately he was at the same time informed that the microscpe might determine it to be more serious, viz.: a malignant, rather than a benign, tumor. After some training and several attempts, the largest nodule was removed with the Shroetter's tube forceps, and was sent to Dr. Jonathan Wright for examination.

He was seen a day or two afterwards, and the surface which had been denuded by removal, instead of showing a tendency to retract and heal, had grown larger and appeared ulcerated; altogether the appearance was such as to create a decided suspicion that the first diagnosis had been wrong, and Dr. Wright's report, which will be given later, was a positive diagnosis of epithelioma.

The patient was immediately fully informed of the nature of his malady, its gravity, and its usual termination. He was also told that on account of its recent origin, and there being so little involvement of adjacent tissue, his was certainly a favorable case for removal by external operation. He readily consented, and was taken to the Post-Graduate Hospital, and laryngectomy was performed by Dr. B. Farquahar Curtis on November 13th, tracheotomy having been performed onc week previously.

Under chlorform anesthesia, the entire half of the larynx was removed in the usual manner, and patient was placed in a room at a temperature of 76° F. On the fourth day he had a severe chill, developed pneumonia, and nearly lost his life in consequence, but finally made a good recovery.

The patient is present this evening, and has kindly consented to allow the members of the section to inspect his laryngeal space. It is now over two months since operation, and as yet there are no indications of return. There are also slides from specimens of the growth, both before and after its removal, for microscopical examination. Underneath the epiglottis there are a few hairs, which evidently have sprung from a small portion of skin which became inverted.

The attention of the section is called to this case because they are so rarely seen in the very early stages, and because of the complete absence of the classical early symptoms of epithelioma of the larynx.

Comments.—1st. The apparent incipiency of this case, and the absence of all save one of the symptoms mentioned in the text-books as early symptoms, has convinced the writer that epithelioma of the larynx in its very early stages is rarely seen, and if seen is rarely diagnosticated as such.

2nd. When seen at such early stage, error of diagnosis, as in this case, is quite liable to occur, and no positive opinion should be ventured until a portion of the diseased tissue has been removed and subjected to microscopic examination.

3rd. The literature upon laryngeal epithelioma during that stage preceding the symptoms of pain, ulceration and loss of mobility of the affected parts, is extremely meager; and in this case there were absolutely no symptoms except huskiness of voice and a vague, undefined sensation of occasional discomfort in the region of the tonsil.

4th. According to McKenzie's experience (I., p. 335) this would add another to the comparatively few cases of primary epithelioma of the vocal cord; but other observers have reported series of cases which would seem to indicate that the vocal cords are the favorite location. See Hansberg's tables, *Archive für Laryngologie*, Bd. v., p. 4; and

Schrötter's "*Vorlesungen*," p. 329; Schnitzler's "*Atlas der Laryngologie*," pp. 200 and 201.

5th. Ulceration immediately followed the removal of the nodule for examination, giving emphasis to the oft-stated fact that a partial removal by endolaryngeal methods, or any operative interference except extirpation by radical operation, aggravates the disease.

6th. From every standpoint of theory this was a favorable case for external operation and complete removal, viz.: early stage, vigorous constitution, slight involvement of tissue, and absence of so-called early symptoms.

PATHOLGICAL REPORT.

SPECIMEN FROM B. S. E. CLINICAL DIAGNOSIS BY DR. PHILLIPS: PAPILLOMA.

It consists microscopically of a mass of flat epithelial and epithelioid cells, supported by a moderate amount of lowly-organized stroma. The cells are in places arranged in concentric fashion around small masses of degenerated cells and granular detritus.

There are places where there is simple hyperplasia, with round or ovoid cells.

Diagnosis: Epithelioma. JONATHAN WRIGHT.

NOTE.—April 23rd. Patient manifests no signs of recurrence. He has a good color, is strong and vigorous, weighs more than before the operation, and says he feels much improved in health. He has considerable voice, of hoarse quality. Although the result seems favorable in this case, should there be a recurrence, it will be reported.

Removal of Foreign Body from the Œsophagus by Forceps, Guided by the Fluoroscope.

The foreign body, an iron washer $\frac{9}{16}$ of an inch in diameter, was swallowed by a male child four years of age (Dr. H. B. Delabour, *Med. Record*, May, 1897). By making the child swallow some water the washer could be located by auscultation about the fourth dorsal vertebra. The fluoroscope clearly revealed the foreign body, and with the aid of a pair of œsophageal forceps, and the administration of chloroform, the obstructing element was successfully removed in twenty minutes.

In order to pass the forceps the head was thrown well backwards so as to bring the mouth on as near a line with the œsophagus as possible. Illustrations accompany the paper.

RETRO-PHARYNGEAL ABSCESS.

BY CARL E. MUNGER, M.D., WATERBURY, CONN.

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This disease, which is known as post-pharyngeal abscess, retro-pharyngeal abscess, phlegmonous pharyngitis,* retro-pharyngeal suppurative lymph-adenitis (Casselberry and Browne), and peri-pharyngeal abscess, is of interest because it is comparatively rare, has a high mortality unless recognized, and is usually susceptible of a cure if it comes under treatment before the patient is quite moribund. As suggested by the above names, this is a disease affecting the lymphatic glands and cellular tissue lying between the mucous membrane of the pharyngeal wall and the anterior surface of the cervical vertebræ. At the beginning of a consideration of this subject, we are confronted with this fact, that while it is a disease which occurs at all ages,† and while the cases as they occur in childhood present a history which is fairly common to all, or we can at least group them into two large classes, the cases occurring in adults are apt to be each *suie generis*, having its own etiology, course and symptoms.

Flint† says acute pharyngitis giving rise to inflammation and suppuration in the aveolar tissue between the mucous membrane of the pharynx and the cerebral column, constitutes the affection called retro-pharyngeal abscess. This statement is true, however, only for the cases occurring in adult life, as in infancy and childhood, periods of life at which a large proportion of these cases occur, there is in this situation a preponderance of lymphatic glands, which are the seat of the affection. This condition of things is insisted upon by Bosworth,‡ and as early as 1851 Allen§ made this statement: "In children, in nearly all these patients the disease is traceable to inflammation, enlargement, and suppuration of the lymphatic glands behind the pharynx or to caries of the vertebræ."

A classification of these abscesses given by Idelson‖ in a résumé of a paper written on the subject by Sokoloff, of Moscow, is of interest, being based on forty cases of typical retro-pharyngeal abscess, and sixteen of retro-pharyngeal lymph-adenitis, which I will take the liberty of quoting.

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*Bosworth. "Diseases of Nose and Throat," vol. ii., p. 73.

†Flint. "Practice of Medicine," p. 451.

‡*Loc. cit.*

§*N. Y. Journal of Medicine*, 1851, p. 307.

‖*The Journal of Laryngology*, vol. v., p. 206.

He divides these cases into the following groups:

1. Single congestive purulent gatherings in the retro-visceral cervical space, which arise in connection with various inflammatory processes in its vicinity (cervical phlegmon, inflammation of cervical lymphatic glands, periostitis of adjacent bone, parotitis, etc.).

2. Tubercular congestive purulent accumulations developing in connection with cervical spondylitis.

3. Proper retro-pharyngeal abscesses due to inflammatory processes in the space itself. The latter category may be subdivided into three groups: (A) traumatic phlegmon of the retro-pharyngeal cellular tissue, which is caused by a direct inroad thereinto of pathogenic microbes; (B) metastatic inflammation of the tissue, produced by the microbes penetrating through the circulation (in cases of small pox, typhoid fever, scarlatina, etc.); and (C) suppurative retro-pharyngeal lymph-adenitis, which is induced by the microbes traveling along lymphatic vessels (and arrested in the glands), and constitutes the so-called idiopathic retro-pharyngeal abscess of children.

The causes of retro-pharyngeal abscess are (*a*) predisposing and (*b*) exciting. The cases may be divided into those occurring in *infancy and childhood* (which may be either acute or chronic), and those occurring in *adult* life, which also may be either acute or chronic.

Of the predisposing causes in the acute cases of infancy and childhood may be noted, heredity scrofulous tendency, syphilis, and the exanthema, the exciting cause exposure to cold and damp air.

In the chronic cases in children we find that a large proportion owe their origin to caries of the cervical vertebræ.

In the adult cases, the predisposing causes are, for the acute cases, about the same as in those occurring among children, with the addition of intemperance.

The exciting causes of acute retro-pharyngeal abscess, as we meet with it in adult life, are numerous and varied: exposure to wet and cold, lodgment of a bone in pharynx, blow with a foil, erysipelas, fall on inferior maxilla, cerebritis, syphilis and mumps; and lastly, there are a number of cases which are called idiopathic.

The symptoms in young children are fever, restlessness, pain on swallowing, and the peculiar voice, which has been called the "voix de canard,"* or "cri de canard,"† a sound resembling the quack of a duck, and later, dyspnœa; but in certain cases, where the abscess is retro-œsophageal, deglutition is performed with comparative ease, the dyspnœa is quite marked, as obtained in cases quoted by Bosworth,"* from cases reported by Ripley, Turner and Chapin, this being explained that the bolus of food pressed the soft sac of pus to one side, while the tracheal wall yielded before the abscess, giving rise to tracheal obstruction.

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*Billiard. "Revue de Laryngologie," Paris, 1894, p. 197,

†Reigenier. "Concourse Médecine," 1882, vol. iv., p. 578.

The symptoms in adults are principally pain, which is constant and continuous, and difficulty in deglutition. There is usually a febrile movement of moderate severity, and that is about all.

The *objective* symptom is, *par excellence*, the bulging post-pharyngeal wall, tense and more or less swollen, and giving a sensation of fluctuation or elasticity, which is not to be met with in the normal throat. In children, the peculiar way in which the head is held has been considered pathognomic, †which is a fixed position, the head being inclined forward and to one or the other side, away from the abscess, if this is unilateral.

As to the course and duration of the disease, it seems to be progressive and not self-limiting; pus has probably been present in many cases for weeks without recognition; indeed, there are recorded cases where the post-mortem alone‡ has revealed the cause of death. There was in the museum of the College of Physicians and Surgeons, N. Y., a pathological specimen described by W. H. Van Buren;§ age of patient six months; abscess not opened; death from exhaustion; the "abscess passed behind the pharynx, enclosed in a dense cyst, lying on the bodies of the cervical vertebræ and in contact with the basilar process." The duration of unrecognized fatal cases has been estimated as from one week to nine months.‖

The prognosis is usually grave if the disease is undetected; and the sweeping statement has been made that "acute cases, if not recognized, are fatal."

Retro-pharyngeal abscess may be confounded with croup, œdema, glottidis, aneurism, and tuberculosis of the retro-pharyngeal lymphatic glands.

From croup it is to be differentiated in that the dyspnœa in croup comes on early; the voice is at first hoarse, then weak and whispering; there is a peculiar cough, and the dyspnœa is partially relieved by having the head low; while in retro-pharyngeal abscess the dyspnœa if

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***Loc. cit.*

†Albert. "Chirurgie," vol. i., p. 357.

‡Allen. *N. Y. Journal of Medicine*, 1851.

§ *N. Y. Journal of Medicine*, 1850, p. 32.

‖Smith. *Loc. cit.*

present comes on late in the disease, and is increased if the head is low, and the voice has the peculiar character referred to.

From œdema of the glottis, in that in this disease the dyspnœa is on inspiration, and the swelling is in front, while in retro-pharyngeal abscess the dyspnœa is continuous and the swelling is posterior.

From the tuberculosis of the retro-pharyngeal glands the abscess is differentiated in that, in the former disease,* (1) there is a simultaneous presence of tuberculous lesions of deep lymphatic glands on the corresponding side of the neck; (2) the affection persists for months; (3) the retro-pharyngeal swelling cannot be reduced in size either by punctures or by incision.

The dangers of this disease, if unrecognized, are: asphyxiation in children, due to the pressure on larynx and trachea, or by a rupture of the abscess and a flooding of the larynx with pus, or gradual loss of strength, or septicæmia.†

Treatment.—This is detection of pus and opening of the abscess. There are two methods: internal incision of the abscess, and reaching the pus from the outside. Each method has its adherents. In a broad way it may be stated that the general surgeon prefers the external method, opening either before or behind the sterno-mastoid muscle, and the laryngologist prefers the internal incision. And again, it may be said that the preference at present is for the internal operation when there is no bulging of the neck laterally, and where there is not present, as a cause, caries or tuberculosis of the cervical vertebræ. As to the dangers of operating, cutting into the internal carotid, as has been done, a sudden rush of pus into the larynx of an already weakened child, and in cases of caries of cervical vertebræ of a sudden dislocation of the cervical spine, and death from pressure on or laceration of the spinal cord. As a matter of surgical historical interest I will mention that laryngotomy‡ has been performed with alleviation of symptoms, but with a speedy return of the same with a fatal termination; in another case tracheotomy§ was performed on an adult, the diagnosis being acute laryngitis; this gave immediate relief, but death ensued on the second day. There was in this case "total inability to swallow."

All this is prefatory to the following case which presents several interesting features:

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*Allen. *Loc. cit.*

†*Journal of Laryngology and Rhinology*, vol. vii., p. 266.

‡Archiv. général de médecine, tom. lvii., p. 257.

§*Medico-Chirurgical Review*, vol. ii., p. 518.

CASE.—G. P., age 37, male. Previous history: Had measles and scarlet-fever before he was eight years old. At nine years of age he had an attack of acute articular rheumatism, and he has had at least eight different attacks since the first one, this being four years ago. The first attack was complicated with endocarditis, leaving a mitral regurgitant murmur. He had measles the second time at thirteen, and had an attack of pneumonia in 1890. On February 3, 1895, he was taken with a light form of la grippe, accompanied with headache, cough, fever, etc., which cleared up in about seven days. February 17th he was taken with headache and pains in the back of the neck, extending from the seventh cervical vertebra to the base of the skull. He was unable to swallow solid food at this time. The pain in the muscles of the neck continued for three days. The inability to swallow solid food continued, and there had been considerable difficulty in swallowing liquids. The amount of fever had not been excessive at any time, staying at about 100° to 101°.

I found the patient emaciated and weak; he coughed a little, but raised scarcely at all. The voice was strong and clear. He complained bitterly that he could not swallow readily. Examination of the oro-pharynx showed simply a congested mucous membrane. Examination of the laryngo-pharynx showed but little more; the only abnormal configuration of the parts was a too close approximation of the lower posterior pharyngeal wall to the arytenoids, which were slightly swollen and very red. The vocal cords were clear. There was no tenderness in the throat, and there had been no pain in the throat at any time. I was inclined to think that he exaggerated his inability to swallow readily, and said that he would get better. There was at this time no prominence of the pharyngeal wall except that which I have referred to, which was scarcely noticeable, and indeed the picture was that often presented to the observer as the natural configuration.

From this time liquid food could be taken only in small quantities, even this producing a distressing feeling of suffocation, *but without pain*. Dysphagia became more and more marked until March 10th, when he practically could not swallow at all. I again saw the man, and in addition to the subjective symptom of inability to swallow, the following appearance was presented. The patient had a distressed and anxious look, and there was a marked bulging of both sides of the neck, and the thyroid cartilages were protruded so as to be almost in a line with the chin; it looked as though the whole neck with contents had been bodily thrust forward. I again examined the throat, and found that it was almost impossible to see the arytenoid cartilages on account of an increase of the condition which I had noticed at the preceding examination, but to which I had not given the necessary weight, viz.: the too close approximation of the lower posterior pharyngeal wall to the arytenoids themselves. I then made a digital examination, and thought that I detected more elasticity posteriorly and very low down than would be ordinarily the case. This was not even then marked. I determined that it must be a case of retro-pharyngeal abscess having its origin quite low down. With a laryngeal knife I made an opening in the median line posteriorly about one-half inch above the level of the arytenoids, upon which there was a rush of a large amount of foul-smelling pus. In a short time after this the patient was able to swallow liquids with comparative ease. The depth to which the abscess extended was 3½ inches below the point of opening. The abscess cavity was washed out on the three succeeding days, and I did not see the man again until March 17th. I then found that there was a partial return of the inability to swallow. Examination showed that the wound had practically healed, but there was some bulging below. Another incision was made a little lower than the first one, and there was a daily cleansing of the cavity with injections of hydrogen peroxide for two weeks. It was then treated on every other day until April 13th, the cavity gradually growing smaller. At this time the patient could take a large amount of liquid nourishment, but was unable to take solid food, and indeed he could not until nearly three months after this time.

The points of interest as regards this case are: first, the lack of acute symptoms pointing to the throat, especially the entire absence of pain and tenderness *in the throat*, and secondly, the long period of convalescence, it being over five months from the beginning of the trouble before the patient could be called well.

Foreign Body in the Trachea; Tracheotomy.

The foreign element proved to be a damson-stone (fruit stone), with which a child of three years had played with the day before (John Bark, F.R.C.S., Ed., *The Liverpool Medico Chirurg. Journ.*, Jan., 1897). No cough or spasm appeared until twenty-four hours after the entrance of the body into the larynx. Crampy attacks with struggles for breath then set in. Nothing was detected by laryngoscopic examination. Under chloroform a long tracheotomy was performed, five or six rings being divided. The inferior surface of the vocal cords were touched with a padded probe, which act caused a forcible cough, which expelled the damson-stone through the tracheal opening for some distance. The tracheal wound was sutured, and an uninterrupted recovery followed.

Auscultation at the time gave evidence of some substance rushing up and down the trachea during respiration. M. D. L.

ADVANCED METHOD IN TEACHING THE DEAF.

BY M. A. GOLDSTEIN, M.D., ST. LOUIS.

Professor of Otology, Beaumont Hospital Medical College; Consulting Aurist to the Alexian Brothers' Hospital, and to the Sisters of St. Joseph School for the Deaf; Aurist and Laryngologist to the Terminal Railroad Association, Etc., Etc.

As early in the literature of medicine as our records can be traced, deaf-mutism has been a factor so constantly present that we are fairly warranted in the assumption that it has existed since the beginning of the age of man.

In the works of Hippocrates and Aristotle we find characteristic mention and unique explanations of deaf-mutism. It is interesting to note that Hippocrates assigned as the cause of mutism the inability of the deaf to use their tongue in articulate speech. Aristotle advanced the theory that deafness and mutism always existed conjointly, drawing such inference as the result of his anatomical observations, that some nerve-communication and relationship of the lung to the ear existed in the brain. This explanation of a nerve-communication between the ear and the organs of speech was universally accepted, and prevailed for centuries.

To a Spanish monk, Pedro de Ponce, who lived at the end of the sixteenth century, belongs the honor of first establishing, by practical demonstration, the true status, that mutism is only a secondary factor of deaf-mutism, and that the deaf can be taught to speak; that mutism is independent of the aural lesion, and that there can be deafness without mutism.

Innovations in this field of otology were few in the seventeenth and eighteenth centuries. A step forward was taken in 1778, when the Abbé de l'Epeé in Paris, and Heinecke in Leipzig, founded the first institutions for the instruction of the deaf and dumb. The method of instruction employed at this time was that of sign-language and gestures, scientifically termed dactylology.

Until within the last decade this has been the only mode of instruction for the deaf in England and America.

Heinecke was an advocate of instructing the deaf by lip-reading and articulation, a system which has been extensively cultivated and favored in Germany ever since.

Another variation in teaching-methods was that of Bell's system of visible speech, successfully employed in England since 1869, based on the physiological action and position of the vocal organs during speech; it is in essence an alphabet of sounds, in which the symbols inform the child how to place its lips, tongue and palate, and thus produce a vocal sound.

The proposition, as herein advocated, to attempt the treatment of deaf-mutism by the influence of sound on the latent or impaired auditory nerve, is by no means new.

In 1743 Bewius recommended sound conduction in the treatment of deafness. Itard and Toynbee report a number of cases successfully treated by similar methods. Phillippe strongly advises the use of an ear-trumpet, still cultivated considerably by French aurists. Browne and Keown have also reported improvements in hearing, the result of stimulating the auditory nerve by sound.

Urbantschitsch has recorded numerous improvements in auditory perception casually observed in the examination of healthy and diseased ears. Eitelberg instituted detailed research in similar cases.

Notwithstanding all these observations, and the thoroughly instructive investigations of Itard and Toynbee, the attempt to adopt a system of treatment to benefit the hearing of the partially or even totally deaf has been sadly neglected, and has gained but little recognition, especially from aurists. Even the celebrated Meniere, one of the most distinguished of French aurists, seems to have added a discouraging opinion, designating the results of the application of "aural exercises," and other methods proposed for the training of deaf mutes, undertaken by the Paris Deaf-Mute Institute, as illusionary and transient.

To Urbantschitsch, of Vienna, we must credit the first successful results in the instruction of deaf-mutes by a systematic course of training of the auditory nerve by aid of the human voice. In 1893 Urbantschitsch published his first results on this system of aural practice; one year later the results obtained by this system in a large class of pupils in the Oberdoebling Institute for the Deaf were submitted to the Otological Society of Vienna.

I had the pleasure of witnessing these demonstrations, and was so impressed with the practical possibilities of this method that, shortly after my return, I published my notes and experiences, with numerous cases, under Professor Urbantschitsch's personal surpervision, together with a detailed description of the method.

The manner of conducting this system of "aural practice" is as follows:

We will suppose that the pupil before us is a case of almost complete deafness; a patient who has been examined by competent aurists, and who has been assigned to some institution for the teaching of the deaf and dumb, who hears only the loud clapping of the hands at close range, or the sound of a loud gong in the same room, but has no appreciable perception of the sounds of the human voice. The pupil is comfortably seated before the instructor, so that the instructor's mouth can be brought in a direct axis with the pupil's ear. We then proceed in a loud voice, and with a prolonged and even tone, to sound the vowel *a*, the vocal sound most plainly and easily heard by the human ear; on inquiry of the pupil we learn that he has received no sound impression whatever, or, at best, a very indefinite sound perception is indicated. This sound perception, if present, may be the same for all vowels, thus, *a*, *e*, *i*, *o*, *u*, would all be heard as *a* or as *o*, as the case may be. The pupil usually has a rather confused idea as to what is expected of him, and it may be expedient to begin the exercise by an explanation, indicating to the pupil that a certain vowel will be sounded in the ear, and directing him to describe to the instructor what impression or sensation he experiences. As soon as the pupil gives evidence that some impression is being made on the ear, we are ready for the next step. This recognition of some sound perception on the part of the pupil may occur during the first sitting or not until five or six weeks of patient training have passed. ¶We then proceed to the second stage of our exercise, which consists in teaching the pupil the differentiation of elementary sounds. We select for this purpose the two vowel sounds most easily and plainly audible to the human ear, viz.: *a*, as in *father*, and *o* as in *hope*. These are sounded in the ear of the pupil distinctly and consecutively, until a differentiation of the two sounds becomes apparent. It is most interesting to observe how, by several minutes' use of these two vowels, called into the ear in a steady, low voice, the pupil often arrives at a differentiation; perhaps not a distinct differentiation, yet the sounding of *a* produces a different impression from that of *o*. In some cases several minutes suffice to reach such a primary differentiation; in others a number of sittings are required; sometimes patient work of many weeks being necessary before an appreciable progress can be noted. However, I maintain that the end justifies the means, and the results, though sometimes slowly obtained, are lasting ones. Gradually, as expeditiously as each individual case indicates, the other vowels should be brought into use. The plainest, simplest sounds of the vowels should be used, viz.: *a* as in *father*, *o* as in *hope*, *e* as in *eel*, *u* as in *flute*, *a* as in *late*. Following the vowels, the consonants should be combined in monosyllables, as: *lo*, *may*, *do*, *ba*, *he*, etc. Consonants heard with difficulty, and easily confusable, as: *b* and *p*, *t* and *d*, *g* and *k*, etc., should receive extra attention, and be diligently practiced as soon as the pupil has progressed to this stage.

To add interest to these exercises for the patient, it is well to use instead of mere sounds, words of single syllables, as: *ball*, *pall* — *to*, *do* — *gate*, *Kate*, etc.

In conducting the exercises, the pupil may at times persist in repeating a wrongly heard sound or word. Under such circumstances I repeat first the *right* and then the *wrong* sound, until the differentiation becomes apparent.

A deaf-mute, who, through this system, hears a word for the first time and repeats it correctly, scarcely comprehends the meaning of the word. Urbantschitsch cites the case of a deaf-mute girl, who, during one of these acoustic practices, was given the word *Anna*, the name of one of her sisters. This word was plainly heard and correctly repeated, yet when the meaning of the word was asked, the patient was unable to associate the idea of her sister's name with the word heard. When the explanation was given, the young girl's surprise was great, and from that moment a rapid improvement was noted, as the patient made every effort to combine the spoken word with the idea implied.

It is recommended that, in this practice *words without meaning* should *also* be used, to determine whether or not the pupil really hears the words used, and is not exercising the power of combination of familiar sounds.

As soon as the progress of each individual case justifies, *whole sentences* should follow the use of *vowels*, *consonants* and *words*.

Another step forward is taken by *gradually increasing the hearing distance*. As previously stated, when these exercises are first begun, the pupil hears at closest range, with the mouth of the instructor close to the ear of the pupil. Some enthusiastic critic may remark, upon reflecting on this single data, that the pupil does not *hear* the vowel or word spoken, but rather *feels the breath* of the instructor, made in sounding the word. Such criticism can be refuted as soon as the pupil's hearing distance can be increased beyond the influence of the instructor's breath; or, in the training, a large paper or vulcanite funnel may be employed to overcome this objection. The apex of the funnel can be lightly brought in touch with the meatus of the pupil's ear, and the instructor can then speak through the funnel, thus cancelling all possibilities that the pupil *feels* rather than *hears* the spoken word.

As the pupil becomes accustomed to the practice, the instructor's *lip-movements should no longer be observed*, in order that the results gained may be those of the "aural practice" *exclusively*, without the auxiliary aid of the eye. This factor can easily be eliminated by blindfolding the eyes of the pupil, or shielding the mouth of the instructor with the hand.

Regarding the length of time of each sitting in this practice, it is important to know that a few minutes often suffice to tire such patient's hearing-power completely, too prolonged a sitting sometimes causing a fatigued condition of the weak auditory nerve similar to nervous asthenopia. I therefore emphatically urge that a limit of time be always observed in carrying out these "aural exercises." At the beginning, sittings of from ten to fifteen minutes suffice; gradually the length of each sitting may be increased to one-half hour and one hour, to suit the requirements of each case. If an exhausted condition of the patient's hearing power is observed, the exercises should be discontinued for a week or two; in short, such an "ear-strain" should be given the same consideration as an eye-strain—*rest.*

The *pitch and intensity of voice* used must be modified to suit the individual case. The use of ear-trumpets to intensify sound should be very limited in carrying out this practice, as a sensitive aural perceptive apparatus may be easily damaged by harsh or sharp sounds.

In some cases, where the hearing condition is very bad and no sensitiveness exists, the ear-trumpet may be cautiously used in this practice with advantage. Generally, however, a long-sounded vowel or word, given in a moderately loud and clear voice, close to the ear of the patient, and in the axis of the auditory canal, with care used in articulating very distinctly, will suffice.

Mr. B. Thornton, master of the vast Institute for the Deaf at Margate, London—to whom I had the pleasure of submitting several practical tests of this method, has called into use the telephone, where, by the use of a modified mouth-piece and receiver, the sound is intensified, and more readily heard by the pupil. Another advantage to be gained herewith is that by the use of a number of receivers, several pupils can obtain instruction at the same time.

Such a system of methodical, regularly conducted "aural exercises," as herein indicated, can be of decided value to seriously affected hearing, by producing: 1. a *differentiation* and *proper perception* of aural impressions; 2, *a stimulation in sound intensity*, with a gradually *increasing acuteness* in aural perception.

The surprising fact that it is possible for an individual, apparently completely deaf, to develop, by systematic training, not only *perception*, but also *differentiation* of sound, is to be considered only from the one standpoint that said individual was not really deaf, but lacked the power of properly interpreting acoustic impressions.

Let me call your attention to the fact that in the reports and statistics which we read from nearly every institution for the instruction of the deaf, from ten to thirty per cent. of the children possess some degree of hearing. This "remnant" of hearing, be it ever so slight, is capable of cultivation, and much good can be accomplished towards re-establishing the function of a partially degenerate auditory nerve.

Gentlemen, I take pleasure in presenting for your very careful inspection and most exacting criticism, the practical results of two years' experience in developing this system of training the latent or impaired auditory nerve apparatus.

The demonstrations which you witness to-day are the first of their kind to be submitted to a medical assembly in America. I did not feel warranted in presenting such results for the deliberate criticism of the profession, until I was thoroughly satisfied that every detail of the system had been carefully tested. I feel that I can now present a practical issue, which may be of considerable service in the training of the deaf, and the restoration, to a greater or less degree, of the functions of an impaired auditory perception apparatus.

About two years ago I was granted permission by the authorities of the Sisters of St. Joseph School for the Deaf, in this city, to demonstrate and apply this system in connection with the regular training of deaf-mutes adopted in the institution. I visited the school once a week, and instructed each of the pupils at my disposal, individually.

I cannot praise too highly the work of the Sisters who have charge of these deaf classes; it is mainly to their efficient and conscientious co-operation and daily practice that the value of this system has become apparent.

My work has been confined to this institution, being the only available one of its kind in the city. I have had in training a class of girls, ranging in age from 6 to 18 years.

The progress of the two years are indicated in the accompanying tabulated report.

In this series of cases, the diagnostic evidences all point to *nerve-deafness*, some being simple cases of paresis acoustica, and others accompanied by middle ear and post-nasal complications.

For practical demonstration I have selected four of the pupils whose progress has been most satisfactory.

I desire to definitely state here, that before these "aural exercises" were undertaken, the hearing of each and every individual pupil was carefully tested and recorded.

In my present demonstration, I will cite, in brief, the result of such tests, together with the probable etiology of deafness.

HISTORY OF CASE.	Hearing Capacity, June, 1895.	Hearing Capacity, April, 1897.
Mary F., æt. 15 years, born in Penn. No consanguinity of parents; both, however, of irascible temperament. Father's hearing impaired. Older brother and younger sister both deaf-mutes. Congenital deafness.	Tuning fork tests negative. Does not hear loud shouting. Articulates poorly. Speaks in weak, very high-pitched voice. Membrana tympani normal.	Differentiates the vowel sounds, *a*, *o*, *u*, when called into ear at close range in prolonged tones. Voice improved.
Annie F., æt. 13 years, born in Texas. Sister of Case 1. More active. Deafness congenital.	Tuning fork tests negative. Hearing for shouting voice at close range, nil. Articulation poor. Membrana tympani normal.	Differentiates *a*, *o*, *u*, *e* at *4 inches* from ear. Articulation and voice improved.
Annie K., æt. 16 years. Contracted mumps when 5 years old, and deafness dates from that time; probably the sequel. Otherwise well-developed and healthy.	Total deafness; no bone conduction with tuning fork or watch. No voice sounds heard.	Hears *a*, *o*, *oo*, *e*, with fair ability to differentiate. Range, *1 inch*.
Emma H., æt. 14 years. Contracted cerebro-spinal meningitis when 18 months old. Deafness followed.	"Total deafness." Tuning fork, watch, voice, Galton whistle, all nihil.	Differentiates all the vowels. Has had several relapses. Voice has acquired more volume.
Mamie H., æt. 13 years. History not obtained.	Has vowel hearing, but cannot distinguish pitch.	Left a few weeks after first sitting. Improvement was very marked.
Emma Y., æt. 15 years. Lost hearing when 7 years old, as result of la grippe. Family history good.	"Total deafness." Converses fluently by lip reading.	Differentiates *a*, *o*, *oo*, *e*. Also two and three vowels in close succession, *a*, *e*, *oo*, etc. Hears several numbers, as *one*, *two*, *four*, *etc.*
Lizzie O., æt. 15 years. Cerebro-spinal meningitis when 2 years old, resulting in complete deafness. No deaf relatives; no consanguinity. Has scar over trachea, which is apparently a tracheotomy scar. Patient has no recollection of having had diphtheria or throat complications.	All tests negative. Case one of so-called "total deafness." Voice fair; articulation poor.	Differentiates *a*, *o*, *u*, at *6 inches* from ear; can also distinguish *low* from *high* pitch of loud voice. Articulation improved.
Julia T., æt. 13 years. Lost hearing when 4 years old. Cause unknown.	Tests all negative. Voice thin and high-pitched. Hears nothing.	Hears *a*, *o*, *oo*, *e*. Differentiates vowels at *4 inches;* voice stronger.
Ouida E., æt. 18 years. No consanguinity of parents. Congenital deafness. Has two brothers deaf-mutes; also deaf-mute relatives on father's side.	Cannot hear voice or other sounds under any circumstances. Hears very loud clapping of hands.	Differentiates vowels quite accurately when called into ear with voice of only moderate intensity.

HISTORY OF CASE.	HEARING CAPACITY, JUNE, 1895.	HEARING CAPACITY, APRIL, 1897.
Nellie S., æt. 25 years. Lost hearing when 4 years old, the result of typhoid fever. No family consanguinity; no deaf relatives.	Fails to hear sound of voice under any circumstances. Tuning fork tests nihil.	Hears *a*, *o*, *oo*, and differentiates these sounds in all possible combinations.
Maud H., æt. 11 years. Lost hearing 3 years ago. Cause: suppurative otitis media following "grippe."	Hears voice slightly at close range. Is unable to differentiate. All sound impressions apparently alike.	Differentiates *a*, *e*, *i*, *o*, *u*, when spoken in moderately low voice. Hears numbers from *1 to 6*. Voice tests at *18 inches*.
Sadie T., æt. 12 years. Lost hearing when three months old, the result of cerebro-spinal meningitis. Family history good. Has a bright and lively, though nervous temperament. Strumous diathesis.	Hears voice at close range. Sounds heard are confused and indistinct. Adenoid vegetations; hypertrophied rhinitis, drums slightly opaque and retracted.	Differentiates *a*, *e*, *i*, *o*, *u*, with ease at *1 foot* from ear. Hears *short words*. Hears numbers *1 to 20*. Can determine *high* and *low* pitch.
Delia C., æt. 14 years. Lost hearing totally when 2 years old. Cause unknown. No parental consanguinity; no deaf relatives.	Tuning fork tests nihil. Fails to hear sound of human voice under any circumstances.	Differentiates accurately all the vowels, *a*, *e*, *i*, *o*, *u*. Hears numbers *1 to 5*. Hears *mamma*, *papa*, *baby*, *Delia*.
Etta M., æt. 11 years. Deaf since 3 months old. Cause unknown. No deaf relatives. Has a good voice and articulates well.	Hears but few indistinct sounds. Tuning fork in both air and bone conduction slightly heard (?).	Hears vowels accurately. Hears numbers from *1 to 10*. Hears *many simple words*.
Vera P., æt. 11 years. Deaf since earliest infancy. Cause unknown. Bright and active. Hypertrophied tonsils.	Partial word-hearing. Differentiates vowels imperfectly. Hears tuning fork by both air and bone conduction very slightly.	Hears and repeats *vowels* in quicker succession and with as much accuracy as pupil with normal hearing. Hears and repeats *words of pollysyllables* and also *entire sentences of simple words*.
Fannie McF., æt. 16 years. Deaf, congenital. Has two "congenitally and totally deaf brothers." Some speech impairment due to hypertrophied tonsils, adenoid vegetations, and slight paresis of uvula.	Tuning fork test — no air conduction. Hears (?) slight bone conduction, C fork, bilateral. All other tests fail. Hears her name, *Fannie*, when loudly called at 3 feet range; also *mamma*, *papa*, *baby*. Hears *a* and *o* as differential sounds.	*Carries on a limited conversation at 10 feet range, blindfolded and without aid of slightest apparatus, with speaker's voice in ordinary conversation pitch.* Hears and repeats *vowels, numbers, and pollysyllable words* without difficulty. Can determine *voice inflection*.

In conclusion, I would say, that the application of this method is neither difficult nor complicated, but it takes into consideration three very important factors, without which success is impossible: patience to a high degree, perseverance, and a strongly developed power of observation on the part of the teacher to utilize every point of vantage to the pupil. Each individual case is a study in itself, and must be treated along its own lines.

Of the ultimate results of the application of this system we can scarcely form a complete estimate, as the range of improvement in many instances has proven almost unlimited.

Even the benefits acquired by *vowel hearing*, in modulating and regulating speech, are all-important. The gradual progression from vowel hearing to consonants, words, and finally the comprehension of entire sentences, is only possible by a diligent application of "aural exercises."

The gratifying results reached while this system is still in its infancy, and in such a comparatively short time, speak for themselves. The introduction of a system which gives promise of so beneficial an aid in training and instructing deaf-mutes, should, I think, be granted a fair and patient trial in every deaf-mute institution, and by every aurist in America.

Every medical man in general, and aurists in particular, should give the system of instruction pursued in our various institutions for the deaf and dumb a careful study, so as to be able to recommend understandingly to the parents and friends of these unfortunate members of society the course of training to be pursued, best calculated to result in greatest advancement.

3702 Olive St.

Burnett, "Diseases of the Ear."
Beck, "Ohrenheilkunde."
Itard, "Traite de Malad-de l'Oreille."
Toynbee, "Diseases of the Ear."
Phillippe, *Journ. de Med.*, Bordeaux.
Browne, *British Med. Ass'n*, Cork, 1879.
Keown, *Arch. fur Orenheilkunde.*
Urbantschitsch, *Arch. fur Physiologie* (Pfluger), 1883.
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Meniere, *Gazette Med. de Paris*, 1880.
Urbantschitsch, *Wiener Klinische Wochenschrift*, No. 29, 1893.
Goldstein, *Archives Otology*, vol. xxiv., No. 1, 1894.

NEW INSTRUMENTS.

A NEW ELECTRIC ILLUMINATOR.

BY S. S. BISHOP, M.D., OF CHICAGO.

For years I have been searching for a light that would meet the exacting requirements of operations on the mastoid process and middle ear. As one of the most important prerequisite conditions of success in these operations is a proper illumination, we are to be congratulated on having acquired the acme of perfection in the improved Nevius electric lamp. It consists of a 16-candle power incandescent lamp surrounded with a highly polished reflector, which is attached by a ball and socket joint to a leather and elastic head-band. This band is held in position by a second one that passes from the lamp-attachment over the head to the occipital portion of the horizontal band.

The original lamp was useful for general operative work, but, as it was fixed so as to project the rays of light downward and in one direction only, at my suggestion a new lamp was made with a ball and socket joint which allows of throwing the light in any desirable direction.

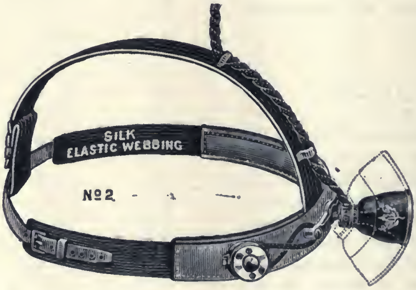

FIGURE 1. The Nevius Electric Lamp.

The lamp is attached to an electric fixture by means of a plug, like an electric fan, and the light is turned on or off by the sliding switch on the horizontal band, seen in the accompanying illustration at the left of the lamp.

I have operated under all sorts of favorable and unfavorable conditions: when the old illuminators have failed me—practically in the dark; by oil lamps; by the ordinary Argand gas-burners with light-condensers; by the Tobold lamp; by sun-light; and by the Welsbach burners, with and without condensers; but nothing has proven as satisfactory in every way as the lamp shown here. With other devices the operator is placed under various disadvantages. The old electric head-lamps were too feeble. The lustrous reflector of this one gives an illumination far exceeding a 16-candle power lamp. In the use of gas or oil lamps there is always the danger of ignition of the fumes of the ether or chloroform and a resulting explosion, which is not amusing. When using this lamp the operator avoids the shining of bright light directly into his own eyes. It provides a very brilliant illumination of the field of operation, and changes the light from one point to another with the movements of the head. One can operate in the darkest room and select the most delicate of his instruments, for wherever he looks everything is rendered plainly visible.

I have performed the Schwartze and the Stacke operations, removed the ossicles, etc., by the use of the Nevius lamp, with the most gratifying results. While the Welsbach burner furnishes a powerful light, it must be reflected into the field by a frontal mirror, and the light will shine more or less into one's eyes; but the worst feature of the latter burner is that it is so delicate and fragile as to crumble and break by a slight jar, or by the explosive effect of the gas when first lighted. I have often found myself deprived of a good light by these slight accidents.

There is a great satisfaction in the possession of an illuminator that meets all the requirements of our most delicate mastoid operations.

Columbus Memorial Building.

Two Cases of Syphilitic Chancres of the Tonsils.

The first case reported by Dr. Arslan was a woman of 30 years, in which the lesion was at first treated as an acute angina, and later as a recurrent tonsillar abcess (*Rev. Hebd. de Laryng.*, Dec. 5, 1896). The tonsil was tumefied, painful, and presented white spots in the neighborhood of the crypts. After excision, a cavity with indurated sides and a deep ulcer was found; afterwards polydenitis. An energetic mercurial treatment was then commenced, which produced rapid improvement, the secondary manifestations afterwards appeared. Cure took place in three months.

The second case was a woman of 23 years. The chancre occupied the inferior portion of the left tonsil, and the diagnosis of this case was relatively easy. The same treatment was followed by rapid cure.

W. S.

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EDITORIAL.

THE ANNUAL MEETINGS OF THE TWO NATIONAL ASSOCIATIONS OF LARYNGOLOGISTS AT WASHINGTON.

The American Laryngological, Rhinological and Otological Society and the American Laryngological Association held their annual meetings at Washington the first week of May. The proceedings of these two societies at the same place, and at about the same time, proved very convenient, as a number of specialists are members of both organizations, and it enabled the members generally to follow the proceedings of both societies.

It was somewhat unfortunate that the Section on Ophthalmology and Otology held its meeting at the same time as the Section on Laryngology. Ophthalmology and Otology are two distinct specialties, and, where the otologist desires to take in another branch, he will select the nose and throat as most intimately associated with the ear, and not the eye. It is therefore to be hoped that the vote of the aurists at the next meeting will be sufficiently strong to dis-associate these two branches; and, if the otologists have not enough members for a distinct organization, they should coalesce with the Section on Laryngology.

While it cannot be said that either of the two meetings have been in any degree an epoch-making one, still many interesting papers were read, and the discussions, on the whole, were interesting.

The American Laryngological, Rhinological and Otological Society especially has our sincere congratulations on the complete success of its meeting. Although practically only the second annual meeting, its proceedings were of such a character that they would be a credit to any society, even of the most mature experience.

Among the subjects that were presented before the meeting of this society that were of special interest was that of Laryngectomy in Malignant Tumors, this subject being brought up by papers read by Drs. Chas. W. Richardson and Frank Hyatt, both of Washington, D.C. The majority of the opinions expressed was that, except in the very early stage of malignant growths in the larynx, the results of radical operations are so discouraging as not to be recommended. A minority opinion, however, held that it were better to take the very small chance of success of a radical operation than to suffer the lingering and painful death from the ordinary course of the disease.

The exhibition of geometric figures produced by the tones of the human voice was given by Dr. H. Holbrook Curtis of New York, and proved very instructive, as also his article on "Singers' Nodules."

The subject of middle-ear disease was discussed at length, the subject being introduced by the papers of Drs. Edward B. Dench of New York and S. MacCuen Smith of Philadelphia.

Malignant Transformation of Papilloma of the Larynx was described by Dr. M. R. Ward of Pittsburg, and the discussion evoked the opinion that, while this transformation is rare, it may undoubtedly occur. A strong argument against this opinion was made, however, as showing that the transformation is only apparent, being due to the difficulty of making a correct histological examination in these cases.

The development of the subject of the X-Rays in Diseases of the Ear, Nose and Throat was described by Dr. W. Scheppegrell of New

Orleans, who also explained his method of treating diseases of the accessory sinuses and ear by ozone gas.

The subject of "Otitic Brain Disease" was introduced by Dr. C. A. Thigpen of Montgomery, Ala., and commanded the earnest attention of the members. His cases illustrated the advantage of operative procedures in cases in which the cranial cavity is involved.

All the subjects were thoroughly discussed, and the four sessions of the Society proved both interesting and instructive.

The election of Dr. W. H. Daly of Pittsburg was unanimously made, and the popularity and reputation of the newly-elected president will, undoubtedly, contribute to further the prosperity of the Society.

The meeting of the American Laryngological Association was somewhat disappointing in some respects. To an association which has among its members many of the most prominent laryngologists in America, and whose age and experience should give it especial advantage, we naturally look for conspicuous results, which can scarcely be said of the meeting which has just been completed. Many of the papers, however, were of considerable interest. Among those may be mentioned that of Dr. J. H. Bryan of Washington, who called attention to the fact that the anterior ethmoidal cells are frequently involved in suppurative inflammation of the frontal sinus, and that the drainage of this cavity should include that of these cells in order to obtain the most satisfactory results.

Dr. Emil Mayer of New York read an interesting paper on "Primary Lupus of the Larynx," and in the discussion he supported his opinion that, while histologically lupus of the larynx may be identical with laryngeal tuberculosis, its course, prognosis and treatment suffice to make it a clinical entity.

Dr. J. Wright introduced a paper on "Bacteria of the Normal Nose and Bactericidal Properties of Nasal Mucus," in which, contrary to the opinion of prominent bacteriologists, he claims that pathogenic microbes may exist in the normal nose, and that the nasal mucus does not possess bactericidal properties. This interesting paper received no discussion.

The general discussion of the meeting was on Atrophic Rhinitis, but did not develop any new facts. Dr. W. E. Casselberry of Chicago described the usual nature and symptoms of the disease, and Dr. J. Nolan Mackenzie of Baltimore, in referring to the pathology of the disease, stated his opinion, supported by microscopic sections, that it was a later stage of hypertrophic rhinitis, as already advocated by Zuckerkandl and others. His argument in explaining the common occurrence of this disease in infancy, whereas hypertrophic rhinitis is exceedingly rare, cannot be said to be tenable. No new light was thrown on the treatment of this disease, the argument being in favor of non-irritating antiseptic washes and oleaginous sprays.

A paper was read by Dr. D. Bryson Delavan of New York describing a case in which a number of pathologists had reported sarcoma, which Dr. Eugene Hodenpyl, the well-known pathologist, declared to be non-malignant, an opinion corroborated by subsequent developments, and which saved the patient from the dangers of a radical operation in this region.

Dr. Thos. R. French of Brooklyn was elected president, and his election is a compliment to the high ability and reputution of this well-known laryngologist. W. SCHEPPEGRELL.

A Bean in the Left Bronchus of a Child; The Appreciation of the Clinical Symptoms Furnished by the Foreign Body in the Upper Respiratory Passages.

Dr. Koch reports the following case: A boy of 9 years held a large bean in his mouth; an attack of suffocation suddenly developed, and at the same time the bean disappeared (*Ann. des Mal. de l' Or., du Larynx*, etc., Oct., 1896). The dyspnœa ceased at the end of a few minutes, and the child recovered its usual spirits. On the evening of the following day, however, there was fever and oppression. On the third day after the accident, the left half of the thorax showed a diminished respiratory movement and the absence of the vesicular murmur. In the evening there was a second attack of suffocation, during which the foreign body was heard to strike against the larynx, producing a rustling sound. By placing the finger upon the trachea, the beating produced by the ascending and descending movements of the bean could be felt. On the seventh day the parents decided to permit tracheotomy, by means of which the foreign body was easily obtained. The recovery was prompt.

Contrary to what usually happens, the foreign body had penetrated into the left bronchus instead of the right, which is the larger and more in line with the trachea. The bean appeared a little swollen, but in spite of its having remained for a week in the respiratory passages, it had not altered and had not produced septic infection.

The brilliant result from tracheotomy in this case shows the importance of this operative measure instead of the dangerous method of expectation in the hope that the foreign body will be spontaneously expelled. W. S.

SOCIETY PROCEEDINGS.

THE NEW YORK ACADEMY OF MEDICINE.

SECTION ON LARYNGOLOGY AND RHINOLOGY.

Stated meeting, held Wednesday evening, April 28th, 1897. Joseph W. Gleitsmann, M.D., Chairman; T. P. Berens, M.D., Secretary.

PRESENTATON OF CASES.

a. Dr. Wendell C. Phillips presented a

Case of Obscure Laryngeal Disease.

Same case had been presented about one year ago. At that time patient, who was 26 years of age, had complained of hoarseness for ten years, and for a long time had lost voice entirely. There was loss of tissue in the anterior border of the septum, involving the skin, and also of the left ala. There was considerable scar tissue, and the tip of nose was curled under. There was ulceration in left inferior and middle turbinated bones, but no necrosis. The external deformity of his nose from loss of tissue dated back about twenty years. There was much infiltration in larynx upon both sides, involving the true and false cords and inter-arytenoid space, and considerable ulceration of the right side. There was no pain, and general health was good—the patient being a vigorous man, actively engaged in his profession. He gave absolutely no history of syphilis or tuberculosis. Iodide of potassium and mercury had both been tried.

The members of the section examined him, and thought it to be the result of syphilis. One member thought that if the subject was saturated with iodide of potassium and mercury the symptoms would disappear. At present there is the same degree of infiltration to be seen, and also some ulceration of the right vocal cord. Upon the right side of the epiglottis there is a fissure about one-fourth inch deep, which began about the time he was previously exhibited. It has been very slow in growth, and is not in the least painful, even when touched with the probe.

The following note was made July 10, 1896:

"Has taken K. I. up to 60 grains t.i.d., and inunctions of Hg. Two weeks ago discontinued K. I. on account of gastric disturbances. Hg. still used, but with frequent intervals of four or five days.

"Have applied strong sol. of A_gNO_3 to ulcerations in nose, and it has gradually subsided and there is less discharge.

"The laryngeal ulceration has subsided considerably. Applied 50-per-cent. icthyol twice a week. The slight ulceration upon the border of epiglottis has been touched with A_gNO_3, but there is now quite a notch, and it is extending. Infiltration in larynx about same. Voice has returned, so that he can speak in a hoarse tone. Breathes better through nose."

Sept. 23d. "During warm weather the ulceration of larynx has decreased, but infiltration about same. Voice about same. Still hoarse."

During the winter all the symptoms had become worse, notwithstanding the almost continuous use of K. I. and mercury. Since the first of November the voice has been almost entirely lost. There is much infiltration, but ulceration is no worse. Twice recently he has had slight attacks of dyspnœa, due, he thinks, to collections of mucus, but more than likely due to the increasing infiltration.

Discussion.—Dr. J. Solis Cohen of Philadelphia noticed the swelling on the anterior vocal cords. There were also nodules on the base of the tongue, which might be lupus. As lupus is rare, he thought it ought to be scraped and submitted to microscopical examination.

Dr. Newcomb mentioned a similar case that he had met with in his experience, in which the soft palate, uvula, etc., were involved in a disease process which he thought to be lupus; microscopical examination showed that it was not lupus, but later developments proved it to be of specific nature.

Dr. Mayer said that the case presented none of the clinical features of lupus, unless he excepted the slit in the epiglottis, which might point that way. If the microscope showed a very few tubercle bacilli the diagnosis of lupus would be substantiated.

Dr. Gleitsmann asked if a microscopical examination had been made.

Dr. Phillips, in closing the discussion, said he had made no effort to remove pieces of the growth, nor was the sputum examined. The ulceration of the epiglottis was so slow that he could not believe it to be tubercular in origin. The general health of the patient was good, and there were no symptoms of tubercular disease. He thought one year ago and still considered the case to be one of lupus; but the consensus of opinion in the section at that time seemed to be in favor of its specific nature, and so he thought he must be wrong in his opinion.

Iodide of potassium was given in full doses. Mercury was also given, and yet the same condition was present, but there was less ulceration. There is present a great amount of infiltration, which if it continues to increase will make it necessary to intubate.

b. Dr. Robert C. Myles showed two cases upon which he had operated successfully for

Trouble in the Frontal Sinus, associated with large granulations of the mucous membrane of the nose in the middle meatus, which blocked up the infundibulum.

He operated by Luc's method, making an opening into the frontal sinus above the superciliary ridge. In one of the cases an extremely offensive pus came from the cavity. The patients were shown with the rubber tubes in the sinuses which maintained the opening from the sinus to the nose. The relief in both cases was remarkable.

Discussion.—Dr. Curtis inquired how many cases the speaker had seen. He thought the opening made a rather abnormal one.

Dr. Myles stated that he had opened eleven frontal sinuses externally, and that his cases were those on which operations had been done through the nose without procuring relief. He now has in a rubber tube, which can be seen in the nose. He thinks a silver tube of proper shape, larger than the rubber one shown, might be better.

Dr. Harris had operated on two such cases, but was much pleased with the results. He was much in favor of the method. He used soft tubes, which he thought were in danger of becoming dislodged. To meet the indications one should allow the tube to remain in the abscess cavity to act as a drain.

c. Dr. Berens showed a

Case of Specific Adhesions of the Soft Palate to the posterior wall of the pharynx, with complete occlusion of the right side.

He operated three years before by Nichol's method, which resulted favorably. Before the operation the patient could not breathe through the nostrils at all, but now could do so with perfect ease.

d. Dr. Gleitsmann presented a case that he had operated upon for **Tumor in the Ventricle of Morgagni,** which the members of the section thought to be tuberculous in nature.

The tumor was removed, and the patient got along well. He did not succeed in getting all the tumor out, so he did a secondary operation, using Herzog's horizontal double curette, which the speaker showed.

The tumor was submitted to Dr. Wright for examination, who reported that it was made up of granulation tissue and round cells; there was also coagulation necrosis. The result of examination showed it to contain tubercles, but no bacilli.

EXHIBITION OF APPARATUS.

Dr. J. Solis Cohen, of Philadelphia, showed the section of an artificial saddle, which was to be introduced under the septum of the nose after Roose's operation.

This was a modified saddle, made of platinum, which was perforated. The nose was to be turned up, and the parts exposed. The saddle was then to be introduced with the prongs fitting in the bone passing under the mucous membrane. It was a very satisfactory instrument. In one patient it not only corrected the deformity, but also cured the catarrh which had troubled the patient for years. It was comfortable, and the patients say it feels as though they had on their glasses; there is usually some anæsthesia. There is some contraction of the nasal passages, which require the most constant use of dilators. After operating we must place the saddle in at once, on account of the swelling which follows; if we delayed this condition would interfere with its introduction. Patients are usually perfectly satisfied with the result.

Dr. H. H. Curtis then exhibited instruments for the development of geometrical figures in sand and emery by means of singing the notes of the chromatic scale under stretched membranes, and exhibited photographs of the chromatic scale, with pictures of intermediate tones. These pictures represented the greatest variety of beautiful figures, with a relationship one to another well shown. Dr. Curtis claimed that a singer with tones well placed could produce the pictures at will, and reproduced some of the most intricate by giving the pitch to a boy-soprano and duplicating the photographs on the membranous discs.

These figures were arrived at in attempting to reproduce the flower pictures of Mrs. Watts Hughes, as published in the *Century Magazine* for May, 1891. Originality was claimed only for the determination of the figures which represented each tone and half-tone of the octave; and any note sung in the instrument could be determined at once by reference to the chart of the chromatic scale. By singing a D in the staff, and obtaining the picture on the chart, for example, the singer at once produced the remarkably complicated picture of D in altissimo by singing the octave above. Practical application of the figures the demonstrator hoped to make in ascertaining correct tone-placing in singers, as the tones must be sung with their proper compliment of overtones or harmonies in order to make the nodal lines of the membranes form symmetrical geometric figures. Attention was also called to the influence the nodal lines of the drum membrane of the ear might exert in the appreciation of musical quality of audible tones.

Dr. J. Mount Blyer claimed that he had written an article on tone vibration, and had published pictures of tones and flower forms. This article he claimed gave him priority. This article appeared in the *New York Medical Record*, September 1st, 1894, with five illustrations.

In concluding, Dr. Curtis said, in reply to Dr. Blyer, that the tone pictures which Dr. Blyer had published in an article on tone vibration, which pictures represented flower and sea-weed forms, were taken without permission from an article in the *Century*, from which magazine he had also plagiarized Mrs. Hughes and one of her critics. From the same source he had also taken two pictures of the serpent and shell forms, published in the *New York World* of April 17th, in which it was announced that Dr. Blyer had produced these pictures on the biograph. Dr. Curtis had investigated at the Biograph Company, and found that Dr. Blyer had no biograph at his office as stated in the article, and had never made use of the machine in his investigations. Dr. Curtis had by permission reproduced Mrs. Hughes flower figures in his book, entitled "Tone Placing and Voice Building" (Appleton, 1896), credit being given Mrs. Hughes and the Century Company. Dr. Curtis also stated that the gentleman mentioned as having assisted Dr. Blyer in the production of voice pictures in both the *New York Journal* and *New York Sun* denied having given him any assistance in that direction, and said he had never seen voice pictures produced by Dr. Blyer, but admitted that he had been asked to to assist him in the immediate future.

Dr. J. Solis Cohen, Goodwillie, Mayer, Myles, Quinlan and Gleitsmann entered the discussion.

Influence of Adenoid Vegetations on the Growth and Configuration of the Upper Maxilla and the Nasal Septum, by J. W. Gleitsmann, M.D.

The speaker says that these conditions have not received the attention they deserve in the text-books on laryngology, although some American writers (Delevan) had referred to the relation of a high-arched and deviated septum in mouth-breathers as early as 1887. Gleitsmann relates the history of a girl, seven years of age, from whom he removed adenoid vegetations, and who had a high-arched palate, a V-shaped maxilla, and an irregular position of the teeth.

According to Koerner two different conditions of the maxilla have to be recognized, dependent upon the presence of adenoids before and after second dentition. In the first instance the palate becomes elevated, the alveolar processes approach each other, but the teeth find their normal position. If the adenoids remain after second dentition, the malformation of the upper maxilla becomes more exaggerated, the maxilla assumes the V-shaped form; the teeth, especially the bicuspids, are crowded out of their place, and sometimes protrude in such a manner that they fall short of meeting each other.

This anomally of the maxilla exerts its influence on the nasal septum, which cannot resist the pressure brought against it and becomes deviated. The reader, therefore, refers to adenoid vegetation as an etiological factor of septal deviations well worthy of consideration.

The malformation of the maxilla with its consequences is explained by the retarded growth of the nasal cavities in post-nasal obstruction, with resulting elevation of the palate. A further element is the elimination of the pressure of the tongue against the cheeks, which in mouth-breathers lies in the lowest maxilla, whilst when the mouth is closed the tongue fills the buccal cavity and exerts a pressure against the lateral part of the maxilla, counteracting that of the cheeks.

Discussion.—Dr. J. Solis Cohen was sorry he was not well posted on the subject. It was true we had vaulted palate with deflected septum; then, too, we often had the same thing without adenoid growths. Deflection of the septum was frequent. Most often a vaulted palate will have deviation of the septum, and at any period of life.

Dr. Goodwillie spoke briefly of the anatomy of the mouth. One should remember that the palate may become vaulted by having an excessive amount of alveolar process.

The speaker then referred to the defects that occurred in intrauterine development.

He referred to a paper that he read some years ago on "thumb-sucking," in which the mouth was drawn to the opposite side, and held in this position while the child slept.

From first to second dentition the natural process is to throw off teeth. When a tooth first appears and the jaw is closed, the teeth do not fit accurately, and so a deformity may be produced. He then referred briefly to the manner a rhinitis could produce a deformity.

Dr. Mayer spoke of the relation of adenoids and deviation of the septum.

Dr. Myles said that children frequently had deflected septum.

Dr. Quinlan spoke of the point where deflections usually exist, namely, at the sutural lines of the plate of the ethmoid with the vomer, the triangular cartilage, the bend taking place at the line of least resistance; frequent traction on the buccinator muscles forces the upper maxilla together, and thereby crowding up the septum, when the foregoing condition is usually apparent. He asked if the thumb-sucking act did not indicate some compensatory demand, viz., in keeping the tongue from the palate dome?

Dr. Gleitsmann, in closing the discussion, said the object of his paper was to draw attention to the relationship between adenoid vegetations and the growth of the maxilla and nasal septum. The first degree of malformation, high-arched palate and deviation of the septum, we see also in other obstructive lesions of long standing, interfering with nasal respiration. The positive proof that the severer forms—the V-shaped maxilla, with malformation of the teeth—are dependent upon the presence of adenoid vegetations, could only be brought if we would allow the adenoids to remain during and after second dentition, which as an experiment is, of course, inadmissible, but which has been observed to be the case in patients seen by Koerner and others.

PROCEEDINGS OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION AT WASHINGTON, MAY 4, 5, 6, 1897.

Reported by W. Scheppegrell, A.M., M.D.

PRESIDENTIAL ADDRESS, DR. CHAS. H. KNIGHT OF NEW YORK.

Dr. Knight called attention to the possibility of infection in the treatment of diseases of the nose and throat, and the necessity of using due precaution in treating specific lesions and other diseases of this character. He referred to the great benefit derived from the principles of Lister, which, while enabling the surgeon to make more conservative operations, formed also the best prevention against contagion.

As regards laryngoscopy, almost all the known functions of the larynx had already been found from sections, before the use of the laryngeal mirror. Laryngoscopy, however, is of inestimable value in enabling us to detect the causes of pathological changes in the larynx.

Dr. Knight suggested the advisability of establishing a journal, not only as the official organ of the Association, but also as a medium of expression of the views and experience of the members of the American Laryngological Association.

The discovery of the X-rays may have an important bearing upon the development of this specialty.

Vivisection has been of undoubted value in the development of our profession, and even the immeasurable benefits of anæsthesia might have been withheld from the human race, had its effects not been first tried on animals. The legal bill, which is now being agitated to prevent vivisection, deserves the condemnation of every true physician. The men who are advocators of the repression of this important method of benefitting mankind little realize that, if prohibition of vivisection becomes a law, the occasion may develop when they may act as a substitute for the worthless animal, upon whom the effects of certain treatment might first have been tried. Many of the advances which have been made in medical sciences have resulted from this method, and the future advances of our profession will depend largely upon exploration on the lower animals.

PAPERS.

Guaiacol as a Local Anæsthetic in Operations of the Upper Air Passages, by Dr. J. E. Newcomb of New York.

Dr. Newcomb stated that while cocaine is an important chemical for local anæsthesia, circumstances may arise in which it is advisable to use another preparation. Eucaine has certain advantages, but seems not to have come into extensive use. Guaiacol is the active principle of creosote.

The preparation which Dr. Newcomb found the most useful is made as follows: To a given amount of olive oil, add 10 per cent. of dry sulphate of zinc. After heating over a water bath for one hour add 12½ per cent. of absolute alcohol. After shaking several times during 24 hours, it is decantered and 5 per cent. guaiacol added.

He has used this preparation 36 times in the nose, pharynx and larynx, and has usually been able to obtain complete anæsthesia within 10 minutes. In nasal operations no more bleeding followed than when cocaine was used.

Discussion.—Dr. Newcomb does not consider guaiacol superior to cocaine, as it requires a longer time to absorb and is more difficult to prepare, but it is useful in certain cases. Of 98 recorded cases, no bad effects followed. Where cocaine cannot be used, guaiacol forms a reliable substitute.

In reply to a question, Dr. Newcomb stated that, while the penetrating effects of guaiacol are slower than those of cocaine, they are eventually as complete as with the latter.

The General Health of the Upper Respiratory Organs, by Dr. J. C. Mulhall, of St. Louis. Read by title.

Submucous Hemorrhage of the Vocal Cords, by Dr. S. W. Langmaid of Boston.

Dr. Langmaid reported five cases of submucous hemorrhage of the vocal cords, each resulting from vocal strain. In each case a catarrhal condition of the larynx formed a predisposing factor, and the great strain caused a rupture of the blood vessel. In four of the cases the hemorrhage was on the right side, and one on the left. These cases resulted in a perfect cure and without recurrence. This accident may happen to perfect singers, so that it is not a question of skill, although the inexperienced singer is naturally more liable.

Case one was a young lady of 20 years, of robust constitution, who after singing became instantly aphonic. A laryngoscopic examination showed a small round collection of blood under the mucous membrane of the right vocal cord, and loss of tension. With rest and local treatment the extravasation disappeared.

Case two was that of an actor who had naturally a low voice, and being compelled to speak in a cramped position he became aphonic. The appearance was similar to the last case, and also the treatment.

The third case was also an actor who suffered from the same condition, and in whom the lesion disappeared in 72 hours.

The fourth was that of a school teacher, who suffered from gradual loss of voice and then suddenly became entirely aphonic, and complained of pain in the larynx. The right vocal cord was red from extravasated blood under the mucous membrane. A month's treatment gave good results in this case.

The fifth case was that of a chorus singer, who was desirous of singing in a principle role, who, while suffering from an affected voice, was suddenly called on to take a principal part, this effort resulting in loss of voice. Some weeks later the normal voice was restored.

In none of these cases was there any hæmoptysis, as reported by other observers. While both vocal cords are frequently affected from this accident, in none of these cases was more than one vocal cord affected. All these cases made a complete recovery with simple treatment, with but one exception; in this case a vascular tumor remained, which was surgically removed. The good results were obtained by rest, local treatment and strychnia. Galvanism often proved effective after the extravasation had disappeared.

Discussion.—Dr. J. W. Gleitsmann has seen a severe case due to a blow. There was marked hæmoptysis for four days, after which all symptoms gradually disappeared.

Dr. C. E. Bean reported three cases of recurrent hemorrhage in patients who were not singers, and in which there was no history of vocal strain. The patients had had catarrhal conditions for several years; the cases required considerable time to recover from this condition. There was no hæmoptysis.

In conclusion, Dr. Langmaid called attention to the curious similarity of the cases which he had reported.

Hysterical Dysphagia, by Dr. A. Coolidge, Jr., of Boston.

Hysterical aphonia is always suspected and has its clinical identity, but this is not the case with hysterical dysphagia. Most cases which have been observed have been reported as œsophageal spasms. Mackenzie reports several cases and believes it to be due to a gouty diathesis. Although many cases of hysteria and spasms may be identical, still it must be remembered that the latter may be the primary symptom of a malignant disease. This condition is more frequently met with in women than in men, and it sometimes occurs during pregnancy. There may be pain and a sense of constriction at the cricoid cartilage, and *globus hystericus* may be present. The onset is usually sudden.

The patient may present a weak and anæmic appearance from lack of food. In many cases the difficulty seems to be referred more to the pharynx than to the œsophagus. Recurrence may take place from a renewal of the exciting cause.

In the diagnosis the laryngoscope may exclude pathological lesions. In the treatment, the patient should be assured of relief, and the passage of bougies gives good results. Care should be taken in using electricity in these cases, as death has resulted from irritation of the vagus.

Hysterical dysphagia may result from a mental impression following the irritation due to the swallowing some irritating substance, which, however, has disappeared. This affection may be defined as an inability to swallow without cause, and due to hysteria.

Discussion.—Dr. Thos. Hubbard stated that these cases are difficult of diagnosis; sometimes they are of inflammatory and not of nervous origin. He recalled two cases in which the irritation was due to swallowing potatoes. In one case the patient had been unable to swallow liquids for two days. There seemed to be a constriction at two points of the œsophagus, a sac forming between them from which the liquids were ejected.

Dr. John H. Lowman reported a case in which bougies had been passed without benefit, and in which the symptoms became constantly aggravated. Believing it to be of hysterical origin, he used a spray as a placébo, and told the patient that it would result in a cure. The patient could then swallow without difficulty.

A second case, in which there was difficulty in swallowing and breathing, had been diagnosed as of hysterical origin by a surgeon who had passed a sound, and told the patient to eat. The patient died three or four days later, and it was found that the difficulty was due to an aneurism, and that the surgeon had probably perforated the œsophagus in his efforts to pass the obstruction. He recalled another case in which an aneurism fortunately opened just before the arrival of the surgeon, who had intended to pass an œsophageal sound.

From these cases Dr. Lowman admonishes care in the use of sounds in such conditions. Even the passage of stomach tubes has resulted in death in three cases. In a case coming under his observation, the tube was passed without difficulty, but the patient gradually became weak, and in 20 minutes was dead. Cocaine renders the use of the sound much easier, and it should always be used.

Dr. Gleitsmann referred to a case, which he had already reported, in which there was marked dysphagia. No cause was found except a very large lingual tonsil; which was cauterized, and resulted in a cure of the difficulty of swallowing. The probability is that this was of hysterical origin, and that the cauterization had cured by the mental impression which was made.

Dr. H. L. Swain stated that he was much interested in the lingual tonsil in connection with such cases. This hypertrophy may cause irritation either directly from its size, or indirectly from the disturbance of the circulation. He has treated a number of cases of dysphagia and irritable cough by applications to the lingual tonsil, which seemed to have caused the trouble.

Dr. Samuel Johnston referred to a case in which the dysphagia was relieved only after an impaction of cerumen had been removed from the ear, and called attention to the necessity of examining the auricular canal in such cases.

Dr. Emil Mayer stated that it is important to make a correct differential diagnosis in these cases. In one case which was reported as hysterical, it was found eventually to be a case of congenital constriction of the œsophagus. This diagnosis was made by means of auscultation. He called attention to the importance of this method, and stated that it should always be practiced before the bougie is used.

Dr. Bryson Delevan stated that he has seen cases which persisted in spite of all efforts, showing that they are due to some neurotic disturbance.

Dr. J. W. Farlow reported a case of dysphagia which persisted for three years, in spite of treatment directed to the faucial and lingual tonsils. There was a painful gland under the angle of the jaw. The removal of an impacted cerumen from the ear gave prompt relief. Many of the cases in his experience were associated with enlargement of the lingual tonsil.

Dr. Langmaid stated that many of these cases are anæmic, the dysphagia being without intermissions, and frequently lasting for years. There seems to be no cause except the anæmia. Some of these cases are simply unable to swallow solids. He has watched such cases for 20 years, and if there had been any malignancy it would have developed. His treatment, besides removing the cause where practicable, is to pass the bougie, using all care and precaution, and each case was benefitted. Whenever the attack recurs, he again passes the bougie, which is sometimes sufficient for a year or two.

Dr. W. H. Daly stated that these cases demand more careful attention than is usually given them. He had an unfortunate experience recently, emphasizing this point. A girl had refused all nourishment but beef tea for some weeks. A careful examination revealed no organic disease. He spoke severely to the patient, in order to cause her to make a mental effort to get well, but the patient seemed very hysterical and determined to die. An olive bougie was passed, and he spoke emphatically to the patient and supposed that her sisters, who were present, would recognize the situation. He was called away for two days, and on his return found the patient dead. There was much feeling with the family, showing that his efforts had been misunderstood.

This is a lesson which should teach the necessity of being guarded, and of explaining to the family the object of impressing the patient. The cause of death in this case could not be learned, as the family refused a post mortem.

The best method of treatment is the rest cure, and, if necessary, feeding the patient by a tube. After keeping the patient secluded for three to four weeks, a cure results in nearly all cases.

Dr. A. Coolidge, in closing the discussion, stated that dysphagia is of hysterical origin, not simply where the cause cannot be found, but where it does not exist. Hysterical dysphagia should be recognized as a clinical entity as well as hysterical aphonia. In answer to Dr. Hubbard, he stated that where the lingual tonsil gives rise to irritation it is usually reflex, as there is rarely an actual obstruction. In most cases, the onset of the disease, like the cure, is sudden. He also hesitates to use the bougie in these cases, as there is always a possibility of breaking up a malignant growth and causing hemorrhage. He does not think that the lingual tonsil is as often at fault as would be inferred from the remarks of Dr. Swain.

Where there is an irritable cough, the lingual tonsil should be watched. If the cure results from an application to the lingual tonsil, it is not usually due to a removal of the cause, but simply that something active has been done, and the benefit is through suggestion. He has seen cerumen give rise to a reflex cough, but not to dysphagia. Among exciting causes for dysphagia may be mentioned hydrophobia. Where there is anæmia in cases of dysphagia, it is usually the result and not the cause.

Bacteria of the Normal Nose, and Bactericidal Properties of Nasal Mucus. By Drs. W. H. Park of New York and Jonathan Wright, of Brooklyn.

This paper was read by Dr. Wright, who regretted that the report was not complete, on account of the departure of Dr. Park. He would, therefore, only offer the conclusions at which they had arrived. Ten years ago they had examined 10 healthy cases, and found the nose to contain pathogenic germs. During the past three or four years other pathologists have made similar examinations, and have found the nasal cavity, except the vestibule, not only aseptic, but its mucus even bactericidal. Where pathogenic germs were found it was supposed to be due to contamination from the vibrissæ.

Drs. Park and Wright again made an examination of 36 normal noses, in which every precaution had been taken to prevent contamination from the vestibule, the vibrissæ having been cut with aseptic scissors, and the vestibule sterilized. The result of this examination proved that the nasal mucus membrane is probably never sterile, only six of the cases having failed to develop pathogenic germs in the culture medium. In many cases few micro-organisms were found, while in others large numbers.

Although the examination had not yet been completed, sufficient was learned to show that the bactericidal properties of the mucus were poor, if not entirely absent. It was found to have no effect on the diphtheria bacillus and on the streptococcus and staphylococcus. On the other hand, the cavity did not contain as many germs as might be supposed. The serum drains downward and washes the cavity, and the cilia also aid in this process. While the mucus is not bactericidal, it does not, however, form a good culture medium. The vibrissæ also assist in protecting the cavity. Two animals were inoculated with a virulent culture in the nose, and died within two to three days.

Remarks on the Treatment of Chronic Affections of the Faucial Tonsils, with Demonstration of Instruments. By Dr. J. W. Gleitsmann, of New York.

Dr. Gleitsmann stated that, with the exception of chronic hypertrophy of the faucial tonsils, there is no condition of such frequent occurrence as chronic inflammation of the crypts. This condition is not observed as often as it should be, this being due to the difficulty of thoroughly examining these parts.

To faciliate this, he prefers a small palate hook to draw the anterior pillar aside. These crypts, in some cases, are filled with a caseous mass containing many leptothrix filaments, and easily develop inflammatory processes. He prefers to tear these diseased crypts open by means of a Moritz Schmidt's hook, either dull or sharpened.

Another frequent association with these cases is a fold of the tonsil which prevents the physician from seeing the posterior surface, which is frequently the most diseased. It is the result of acute follicular inflammation, combined with chronic tonsillitis. The best method of treating these cases is to dissect out the tonsil from its adhesions, and remove the diseased tissue by means of punch forceps.

In the instrument which Dr. Gleitsmann uses the blades are on a horizontal plane, and he has found this the most useful in this class of cases.

Discussion.—Dr. Farlow stated that many persons who write on this subject seem to think that the tonsil should be treated only when it projects beyond the pillars. These cases, however, are not a question of hypertrophy, but of diseased tissue which should be removed. As regards the hook, which Dr. Gleitsmann has shown, he would prefer a stronger and also a longer handle, so that the fingers need not be inserted into the patient's mouth. As regards the punch forceps, he sees no reason why the ordinary forceps with the blades in a perpendicular plane do not answer all purposes, as it is only necessary to turn the hand in order to place them in a horizontal plane. He has used this instrument in 200 cases, and found it sufficient for all purposes. Instead of using a hook to draw the anterior pillar forward, as recommended by Dr. Gleitsmann, he uses simply the tongue depressor, by means of the end of which he can draw the anterior pillar forward, thus performing both acts with one instrument. It is important that a probe should be used in the examination of these cases.

Dr. Daly stated that he did not think that the faucial tonsils are a necessary part of the healthy throat, and if they extended beyond the arches they should be removed. He would call attention to one circumstance, and that is, that the number of instruments are entirely too large. There is rarely an operation of the faucial tonsils which cannot be performed by means of two curved knives, a pair of forceps and scissors. He does not consider these cases as common as would be inferred from Dr. Gleitsmann's paper.

In aggravated cases, the connective tissue is destroyed by pressure, and, as the tonsil has no physiological function, it should be dissected away after the patient has become accustomed to the manipulations.

Dr. Gleitsmann, in concluding the discussion, stated, in reply to Dr. Farlow, that he found the necessity of turning the punch forceps awkward, and therefore he prefers the instrument with the horizontal plane. He also found this instrument useful for the turbinated bone.

In reply to Dr. Daly, he admitted that these operations could be performed with simpler instruments, but by having an instrument especially adapted to the work it facilitates the operation. In conclusion, he insisted that many cases are overlooked, and that great care should be taken in the examination of this region.

EXHIBITION OF INSTRUMENTS.

Dr. Delevan exhibited

New Electrodes for Bipolar and Unipolar Electrolysis.

The bipolar electrode is so made that the distance between the needles may be adjusted to the requirements of the case.

Dr. Farlow exhibited a

Schuetz's Lymphatome,

Which he finds superior, for adenoid operations, to Gottstein's curette in many cases. The instrument cuts backwards, the blade being protected by a rim. Two sizes of this instrument are made. The original instruments are imported from Germany, but they are also made by Codmann & Shurtleff.

Dr. Farlow exhibited some drawings of the larynx which were well prepared, and he also presented some models of the nose and larynx which were useful for instruction. These are made by Betz, of Heilbrun, Germany.

SESSION WEDNESDAY, MAY 5th.

EXHIBITION OF PATIENTS AND SPECIMENS.

Dr. J. H. Bryan, of Washington, exhibited a patient with

Fibrosarcoma of the Nose of four years standing.

The tumor is confined to the nasal cavity and bleeds freely on manipulation. It is increasing in size.

Dr. M. R. Ward, of Pittsburg, called attention to the difficulty of making a diagnosis between **fibroma and fibrosarcoma.** He described a case in which the pathologist reported fibrosarcoma, but in which another pathologist had reported fibroma. There was no recurrence, proving the correctness of the latter report.

Dr. J. E. Boylan, of Cincinnati, stated that he had operated upon a case in which the pathologist reported sarcoma, and in which the patient made a complete recovery. The survival of the patient is, therefore, not necessarily a proof that a growth is not malignant.

Dr. W. E. Casselberry, of Chicago, referred to a case of fibroma of the nose, which he had reported and exhibited on a previous occasion. The tumor was vascular and bled easily. The neoplasm was split and a wire applied, and, in the course of a few weeks, a two ounce bottle of fragments was removed. In sarcoma the growth has a soft aspect, while in fibroma it is more dense. In a case in his practice, the tumor originated from the antrum.

Dr. Wright stated that pure fibroma of the nose is almost unknown, while in the naso-pharynx they are commonly met with.

Dr. Casselberry, in reply, stated that he had had a case of pure fibroma of the nose some years ago. While fibroids of the nose are rare, they do undoubtedly exist.

Dr. Hubbard reported a case of sarcoma, in which an operation was futile, as the middle cerebral fossa was involved. Eye symptoms should be carefully watched in these cases.

Dr. J. Solis-Cohen, of Philadelphia, described a case of sarcoma of the nose and antrum. The tumor was removed through the natural passages, and the patient lived several years, but eventually died. In malignant cases, more radical measures should be undertaken, as Rouge's operation, with complete extirpation of the diseased area. If such steps are not taken, the patient usually dies in a few months.

Dr. C. C. Rice stated that something must be done in these cases, as their development is very rapid and results in external deformity and destruction of the eye. He referred to a case in which the surgeon had commenced the operation on a man of 25 years, and had ligated the carotid, but desisted because the lymphatic glands were found to be involved.

Another attempt was afterwards made, and the diseased area, including the eye, removed, the patient living several months after the operation. An operation by the snare through the nostril is worse than useless in these cases. A radical operation with thorough removal of the growth and its attachment is demanded. The recurrence in these cases is probable, but it is our duty to give the patient the benefit of the trial.

Dr. Nolan Mackenzie stated that almost all of these cases required radical operations. Instead of Rouge's operation recommended by Dr. Solis-Cohen, he prefers the modified Langenbeck, in which the superior maxilla is rotated out. By this operation he had been enabled to make a radical extirpation of a malignant growth.

"**Report of a Case of Suppurative Inflammation of the Frontal, Ethmoidal, and Maxillary Sinuses,**" by Dr. J. H. Bryan, of Washington, D. C.

There is no disease with such a disposition to chronicity as chronic empyema of the frontal sinus, especially when the ethmoidal cells are involved. These cases were rarely met with formerly, but since the epidemics of influenza, they seem to be of frequent occurrence. The inflammatory process may extend from the nose or from another sinus. It has been shown that sometimes anomalous passages exist connecting the cavities, and the infection may extend along these paths.

The ethmoidal cells are closely related to the frontal sinus, and they are affected, to some extent, in nearly all cases of frontal sinusitis. It has been shown also, in the examination of the frontal sinus, that this cavity varies within large limits. The septum is nearly always present, although occasionally there is a small opening. The size of the cavities cannot be judged by the external conformation, and the superciliary ridge is no guide.

The most successful operation is the external one, using a trephine about three-eighths of an inch in diameter nearly over the supraorbital ridge; the cavity may thus be thoroughly inspected and the diseased tissue removed. Using the little finger as a guide, the naso-frontal ductus is enlarged, and drainage of the anterior ethmoidal cells established. After removing the diseased tissue within the sinus, a 20 per cent. chloride of zinc solution may be applied. A drainage tube is inserted, and the cavity hermetically closed.

Dr. Bryan described in detail a case which had been operated in this manner, and which had given excellent results. The external wound healed without deformity. The incision is made in a vertical line, and the segment of bone not returned, as the periosteum is sufficient to prevent deformity.

Discussion.—Dr. Casselberry stated that the intranasal treatment in these cases is unsuccessful, as he has found this the case in his own experience. The older operation was unsatisfactory, as it left a scar and usually failed to cure the patient. To be able to assure the patient of a probability of a cure without a scar was a great advantage.

Dr. McKenzie warns against the use of strong antiseptic washes in this cavity, as a bichloride solution of 1 to 10,000 may cause necrosis. If possible, drainage tubes should also be avoided, as they are pus producers and may carry an infection.

Dr. Daly stated that he has never operated by the external method, as the patient usually declined, as no positive results could be promised. He takes issue with Dr. McKenzie in regard to the use of antiseptics. While condemning the use of strong antiseptic solutions, he has frequently used 1 to 3,000 bichloride solution with good effects. A case in which the lower jaw had been removed, this solution seemed to hasten the reproduction of bone from the periosteum.

Dr. J. E. H. Nichols stated that in a case in which he had performed Luc's operation on the frontal sinus, the case appeared to progress well for several days, when a 1 to 3,000 bichloride solution was used, which produced such a violent inflammation that the sinus had to be reopened and the wound drained externally.

An important point in the differential diagnosis of these cases is, that a long sinewy stream of secretion is indicative of the frontal sinus, while a solid mass suggests antral disease.

Dr. Mackenzie does not disregard the value of antiseptics, but insisted that they should be diluted to such an extent as to be non-irritating.

Dr. Farlow believes that although the antrum is usually secondarily infected, from the frontal sinus by the action of gravity upon the secretions, the reverse may also be the case. This may take place during the recumbent position of the patient.*

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*Although gravity may facilitate infection of the antrum of Highmore from the frontal sinus, the reverse could easily take place, even when the patient is in the upright position, by means of capillary attraction, through which the infectious material could easily be drawn into the frontal and ethmoidal sinuses.—*Scheppegrell.*

Dr. Bryan, in concluding the discussion, emphasized the importance of draining the anterior ethmoidal cells in operations upon the frontal sinus. If these cells are involved the result will be unsatisfactory unless they are also drained. He believes the antrum to be more often involved secondarily.

Discussion on the Nature, Symptoms, Pathology and Treatment of Atrophic Rhinitis.

Dr. Casselberry described the nature, symptoms and pathology of atrophic rhinitis. The ozenic form is more common in children, and the dry form in adults. In both the fetid and nonfetid form there is atrophy of the mucous membrane. In some cases the fetid and nonfetid forms blend. The glands are involved in the atrophic process, and the peripheral nerves also, as shown by the decrease of irritability of the mucous membrane in these cases. The bones and cartilages are also involved, and even the external nose is characteristic. Perforation of the cartilage in adults with the dry form is common on account of lack of recuperative power.

In some of these cases there is not only a defective secretion of the mucus, but also of the saliva; which causes considerable inconvenience. Anatomical conditions cannot be viewed as the sole cause. Syphilis may have its influence through heredity. Gout and alcohol are predisposing causes in the simple atrophic form. The simple form may also be a later stage of hypertrophy. Both conditions may coexist and progress at the same time. The middle turbinal may be enlarged and the inferior atrophic. It does not, however, explain the presence of ozena in early life, and hypertrophy does not always end in atrophy.

The theory that atrophic rhinitis results from disease of the accessory sinuses has not been substantiated. The microbic origin is still *sub judice.* This disease is somewhat analogous to rhino-scleroma. Belfanti and other investigators claim cures from the injection of antidiphtheritic serum on the theory that ozena is due to an attenuated diphtheritic bacillus.

The symptoms are well marked. Whether the fetor is due to decomposition or other causes it is difficult to say. The fetor may be present in the mucus while it is still in the glands; but this is difficult to prove, as the odor, which remains after cleaning the cavity, may be due to secretions in the sinuses. The disease may be due to a neurosis, or may be of microbic origin, with probability in favor of the latter.

Pathology of Atrophic Rhinitis. By J. Nolan Mackenzie, of Baltimore.

Dr. Mackenzie confined his remarks to atrophy of the mucous membrane. This is an important structure in an important organ. It contains myriads of vessels and blood spaces in a network of connective tissue. It also contains glands and vascular filaments by which the physiological erection and collapse takes place, which is necessary in carrying out its respiratory function.

In atrophy, there is diminution of the size and disappearance of the individual lungs. In pure atrophy the highly specialized tissue suffers. We may have simple atrophy, or atrophy of degeneration. Simple atrophy may take place from inanition, inactivity, pressure, or trophoneurosis.

In the atrophy under discussion this is not the case. It is the atrophy of degeneration. Thirteen years ago Dr. Mackenzie suggested Sclerosis as a more appropriate name. It means a chronic inflammation in which there is an atrophy of the specialized tissue, with hypertrophy of the connective tissue, and this condition is present in true hypertrophic and atrophic rhinitis. These two differ, not in kind, but in degree. The first is a hypertrophic, and the other an atrophic sclerosis. Chronic inflammation is the chief exciting cause, although there may be an infection through the blood, as in syphilis or tuberculosis.

As regards infection from pus passing over the mucous membrane, there is nothing parallel to this in pathology. The same process involved here is seen in the liver and brain. This change from hypertrophy to atrophy may take place very rapidly, as in the case of a patient seen last December, who applied for hypertrophy, and in whom a month later there were marked intranasal sclerosis.

In reply to Dr. Casselberry that ozena develops too early to result from previous hypertrophy, this may be explained by certain intrauterine processes which might have preceded it. The future must determine the process by which the hypertrophy passes into an atrophic form. Syphilitic and tubercular taints certainly have their influence.

In the microscope, the hypertrophic and atrophic processes may be seen side by side. This view has been disputed, but unless absolute proof to the contrary can be established it had better be accepted conditionally. When hypertrophy and polypoid degeneration are present in suppuration it is only a coincident.

Treatment of Atrophic Rhinitis. By Drs. C. C. Rice, of New York, and J. C. Mulhall, of St. Louis.

Dr. Rice called attention to the effects of constitutional conditions on this disease, and of the effects of unhealthy occupations. We should, therefore, not neglect to treat the constitutional condition, which may be a predisposing agent. Usually too little attention is given to this point. If limited to one method of treatment, he would prefer to give the patient out-door work and improve his sanitary surroundings, to the local treatment, except simple cleansing washes. He has had the opportunity of sending eight patients with atrophic rhinitis, who were occupied in shops of various kinds, to a stock farm, and the benefit was noticeable at once.

Alcohol and cigarettes are strong predisposing agents. Where atrophy is present in a man of full habits it is usually attributable to alcohol or tobacco.

The majority of drugs which have been recommended for this disease are stimulating or irritating. The German school, on the theory of the microbic origin of this disease, advises bichloride solutions 1 to 4,000. Electricity has been used in the form of galvanism, faradism and cupric electrolysis. Gottstein recommends the packing of the cavity with absorbent cotton containing some stimulating substance, as iodine thymol, pine oil, etc., in order to obtain the prolonged influence of the drugs.

Vibratory massage is said to have given good results. Destructive applications, such as cauterization, should be censured, as this causes further devitalization. Resorcin ointment is said to have given good results. Peroxide of hydrogen is a useful germicide, but not a good stimulant, and may be irritating if of sufficient strength. Ozone requires a complicated apparatus.

Dr. Rice's personal experience is in favor of oily preparations which are sedative and allay inflammation, and he finds them better than aqueous solutions. The nostrils should be syringed with the smallest amount of water to effect cleanliness. The nasal cup is much better than instruments using pressure. Where there are ulcerations of the mucous membrane, stimulation by friction is the best remedy. After washing, some oily preparation should be sprayed into the nostrils. In children a powder of 70 per cent. compound stearate of zinc in boracic acid is useful. While it is difficult to cure this disease, this method alleviates the condition and renders the patient comfortable.

Dr. Knight stated that many of these diseases develop at puberty, or in early childhood. In women it usually terminates at the menopause, and is rarely found after the age of 45 to 50 years. This fact should be considered in the etiology of this disease. In women it seems to exist principally during the reproductive period. When these cases are seen in later life, there is little of the bone or glands left; but there is no crust, and the parts appear moist.

In cases which develop after 20 years, there is usually but little crust. The treatment consists in thorough cleanliness, followed by stimulation, as by thymol.

Dr. D. Bryson Delevan advises stimulation in these cases, galvanism being effective for this purpose. Dr. Stoker, of London, recommends the oxygen treatment in these cases, and claims excellent results. Dr. Delavan is not aware that this method has been attempted in this country, and it would be well to give it a trial.*

Dr. S. O. Van der Poel stated that investigators have reported good results from the use of antidiphtheritic serum in these cases. He recently had an opportunity of testing the value of this treatment. A woman who suffered from typical ozena developed laryngeal diphtheria, and three injections of antitoxin were made. After she recovered from the diphtheria, he examined her several times, and found the nasal disease much improved; the mucous membrane was dry, but not to such an extent as before, and there was no crust.

Dr. J. H. Hartman.—The application of galvanism in these cases is very tedious, but combined with thorough cleanliness it gives better results than with other methods.

Dr. Jas. E. Logan stated that where he finds the atrophic process commences in the middle and not the inferior turbinal, it is usually secondary to empyema of the accessory sinuses.

Dr. Casselberry, in regard to the statement that the atrophic is secondary to the hypertrophic form, stated that this may be accepted in the simple nonfetid form. The argument that the early development of ozena may be secondary to hypertrophy in the intra-uterine state is simply evading the issue.

Regarding the selection of climate, he prefers the moist and Southern climate.

Dr. Mackenzie stated that it is difficult to explain the early development of ozena, but it is probably due to some constitutional taint. The oxygen treatment, like all such agents, is too superficial in its effects.

Dr. Rice, in concluding the discussion, stated that the etiological effect of diseases of the accessory sinuses has not been substantiated. In regard to climate, he prefers the lake shore.†

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*As this point was not corrected, it would be well to state that this method has been tried in various parts of America, and it is a well known fact that one of the members of the American Laryngological Association has established a sanitarium in which this form of treatment is carried out on an extensive scale.—SCHEPPEGRELL.

†It is to be regretted that a discussion of this kind is made confusing by including both ozena and simple atrophic rhinitis. The fact that there is atrophy present in both cases is no more reason for combining them than there is for treating pneumonia and pulmonary tuberculosis under the same head, simply because consolidation of more or less pulmonary tissue is characteristic of each.—SCHEPPEGRELL.

[CONTINUED IN NEXT NUMBER.]

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ORIGINAL COMMUNICATIONS.

THE CLINICAL PICTURE OF ACUTE INFLAMMATION OF THE FRONTAL SINUS.*

BY PROF. GRADENIGO, TURIN.

Translated by Dunbar Roy, M.D., Atlanta.

With the above title I wish to direct attention to a form of sinusitis frontalis which, according to my experience, is easy to diagnose, and is by no means infrequent, but which, on account of its almost latent course, can be confounded with supra orbital neuralgia; it merits, on account of its constant clinical picture, a place in the Nosology, although, as we will see, it represents, according to its anatomical pathologic condition, only a mild form of the classical Sinusitis Frontalis. This affection always follows an acute coryza, but usually several days, even to one or two weeks, intervene between the cessation of the discharge and the beginning of the symptoms of the frontal complications. On account of this intervening period and the relative mild symptoms which the coryza may have, the interval between the two affections usually remains unobserved. The disease begins with pain of the neuralgic bursting type, which has its seat especially in the neighborhood of the frontal sinus; these attacks, which in the beginning are present only a few hours and always in the forenoon, increase from day to day, both in intensity and duration, until the maximum is reached on the eighth or tenth day. In this stage the pain can exist continually with exacerbations, accompanied by intense flashes of light and tears from the corresponding eye.

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*Monatsschrift fuer Ohrenheilkunde, April, 1897.

In the intervals between the attacks the pain can be precipitated by violent blowing of the nose, rapid moving of the head, etc. The most important symptom for differential diagnosis, on which I will direct especial attention, consists in the fact that striking against the forehead with the finger or the percussion hammer is painful only on the surface which represents the front wall of the diseased sinus. In this manner one can map out the extent of the sinus on thé skin. In this circumscribed region there is frequently found hyperæsthesia to the touch. Alterations in the tension of the skin I have not seen. In well marked cases and in individuals with very transparent skull bones, one can note, by putting an electric lamp of strong intensity in the mouth, that the region of the diseased sinus frontalis is darker than that of the healthy side. The rhinoscope in the first period usually shows nothing abnormal; in the period of discharge one can observe a moderate swelling and (which is a very important point for diagnosis) the appearance of a drop of mucous or purulent discharge in the region of the hiatus semilunaris. The disease heals in about two weeks after the discharge of a certain amount of mucous, fibrinous or purulent matter from the corresponding nasal cavity. The discharge will be greatly assisted by inclining the head forward. The secretion can be so profuse that one patient who had this to happen in the dark believed that he had nose bleed. After this, all the symptoms subside by degrees and the patient has left only a predisposition to future attacks.

Such pathologic conditions one can observe in individuals with healthy nasal cavities as well as in such with chronic nasal disease (Ozena, Rhinitis Hypertrophica, etc.); I could not observe that the process was more severe in the last form than in the first.

These complex symptoms lead to the conclusion that this disease, just as the inflammation of the other sinuses, is caused by an extension of the inflammatory process from the nasal cavity; on account of a catarrhal stenosis of the ductus fronto-nasalis there exists a retention of the mucous or muco-pus secretion; such pathologic conditions afterwards heal spontaneously. Furthermore, one can conclude that certain special anatomical relationships of the ductus fronto-nasalis favor the extension of the diseased processes and the extension of the watery secretion, wherefore the complication usually occurs only on one side. In reference to the quality of the secretion, whether mucous (Mucocele) or purulent (Empyema) one can observe all the gradations as well by the acute as by the chronic sinusitis. In regard to the treatment, the most severe cases are usually benefitted from the use of phenacetin, and sometimes also in the use of quinine and antipyrin.

Besides, I have found the weak galvanic current of decided benefit with the positive pole on the forehead. In regard to the treatment of the nose, I have found good results to follow if a piece of cotton saturated with a 10% cocaine solution be placed in the region of the hiatus, and if possible still higher, since in the great majority of cases the anatomical relationship does not permit the sounding of the fronto-nasal canal.

Lukewarm, careful douching with the physiological salt solution also gave good results. No marked improvement was seen from general anti-rheumatic treatment.

The sinusitis spoken of above represents a mild form of the acute mucocele, or of the empyema inclosed in the sinus frontalis, as has been described by other authors; this latter, as we know, is accompanied by more or less marked appearances of external swelling with protrusion of the eye-ball outwards and downwards with endonasal lesions, etc. Furthermore, these severe forms which I saw in connection with influenza or ill-advised nasal douching, and which offered clear signs for diagnosis, are capable of healing spontaneously.

A New Method of Permanent Relief of Certain Enlargements of the Turbinated Bodies. (*Medical Record*, June 12, 1897.)

In a paper read before the last meeting of the American Laryngological Society, Dr. D. B. Delavan offered a simple method for the reduction of enlarged turbinates, without producing any loss of mucous membrane. He advocates submucous incisions, by means of a small knife (needle shaped), which he passes under the mucous membrane and makes a sweep through the submucous tissues. He then withdraws the instrument through the original opening without enlarging same. In this manner the vascular coats of the vessels are broken, and clotting of the cavernous tissue takes place.

M. D. L.

EMPYEMA OF THE MAXILLARY, ETHMOIDAL AND SPHENOIDAL SINUSES ATTENDED BY GENERAL SEPTICEMIA FOLLOWING ATTEMPTED REMOVAL OF INFERIOR TURBINAL BODY—OPERATIONS—RECOVERY.*

BY H. V. WÜRDEMANN, M.D., OF MILWAUKEE, WIS.

Abstracted by N. M. Black, M.D.

W. remarks lack of instruction in text books regarding aseptic preparation and technique in nasal operations. · The germicidal quality of nasal mucous and the resistance of the membrane has been the salvation of many operators.

A man aged 24, attempt was made to remove supposed polypi and left inferior turbinal body by another practitioner. A week later the left side of face was very much swollen, great exophthalmus with chemosis and prolapse of conjunctiva; a slimy discharge from left nares, great pain especially in orbit, temperature 101.5. Electric light trans-illumination showed normal illumination of the right side, of the left absolute opacity; homonymous diplopia was due to exophthalmus. Ophthalmoscopic examination negative.

Sent to hospital, iced applications made to face, saline purge and stimulants given. Twenty-four hours later odema worse, temperature 103.6, pulse weak, strychnin ordered, antrum opened through nares releasing small amount of pus, then opened through canine fossa, discovering more pus. Posterior ethmoidal and sphenoidal cells were also opened relieving more pus. Tube drainage. The edema was not relieved and temperature following day was 104.2; prolapse of conjunctiva and exophthalmus worse, the bulb protruding nearly 1 inch beyond its fellow. Fluctuation of lower lid was noticed and abscess opened in suborbicular furrow allowing escape of two and one-half ounces of foul pus, discovering denuded bone at lower margin of orbit, probe being passed into anterior ethmoidal cells. Tube drainage was used and washed out with antiseptic solution, communication being at once established between this opening, the antrum and nose; temperature immediately dropped; edema disappeared. Continued improvement, stimulants stopped and patient placed on tonics.

5-27-97—Patient has had subsequent operations for removal of inferior turbinal and granulation tissue with continued improvement.

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*Read before the Section on Laryngology, Rhinology and Otology of the American Medical Association, Forty-eighth Annual Meeting, held at Philadelphia, Pa., June 1-5, 1879.

EXCISION OF THE TONSILS BY MEANS OF THE GALVANO-CAUTERY SNARE.

BY JOSEPH S. GIBB, M.D., PHILADELPHIA.

Professor of Diseases of the Throat and Nose, Philadelphia Polyclinic; Surgeon-in-Charge of the Ear, Nose and Throat Department, Episcopal Hospital.

Tonsillar hypertrophies assume such diversities of size and form and their construction are so various that no single instrument meets every indication. The essential principle involved in the removal of hypertrophied tonsils, we believe at the present time, is to effect a thorough eradication of the hypertrophied tissue.

The bistoury is seldom used to-day, except by the general surgeon. The tonsillotome is largely employed, and in the majority of cases answers the purpose admirably. In completeness of removal this latter instrument leaves little to be desired, but that its use is not unattended with danger of hemorrhage is attested by the space given to the subject in every text book. Bosworth gives quite a complete history of the cases of hemorrhage following tonsillotomy. Some of these occurred after the use of the bistoury, but the larger number were in cases in which the tonsillotome was the instrument employed. It is interesting to note that all these accidents occurred in adults, and that in no case was it fatal, though in three cases it was necessary to ligate the common carotid artery before the hemorrhage was controlled.

Bosworth further states that, in his experience, troublesome hemorrhage probably follows excision of the tonsils in the larger proportion of cases in adults' life. Whilst this has not been my experience, nor do I believe it is the experience of most operators, still the testimony of so able an observer, and the record of the accidents which have occurred in the past, demonstrates the danger to be not inconsiderable.

It is the dread of hemorrhage which has induced the laryngologist to search for some means of excising hypertrophied tonsils which shall reduce the danger to a minimum. Naturally the snare has suggested itself and the cold wire or ecraseur has long been used for this purpose. This method, however, is tedious, if it is employed closely, which it is necessary to do to accomplish the object desired. It is also quite painful, and, therefore, inapplicable to a large number of persons of the neurasthenic type.

Electricity has given us the means to so heat the wire of the snare that it cuts its way readily through the soft tissues, and at the same time so clear them in its passage as to close the mouths of the vessels and render the operation practically bloodless.

The difficulties in the past have been that the snares on the market are so constructed as to render this work very unsatisfactory. The universal handle has attached to it a little windlass on which is wound the wire through which the current is to pass.

It is next to impossible to wind any but a very soft wire on this windlass. Wire of this latter construction is not only readily burnt through, but is exceedingly difficult to adapt to the tissues. Platinum wire, which I endeavored to use, was entirely too soft and almost useless.

Later, an irido-platinum wire was tried with little better success. Either the composition was too soft and the same difficulties met with as in the use of platinum, or it was too stiff and fine to be satisfactorily wound around the windlass. Several devices were employed, but on the whole the work was so unsatisfactory the method was abandoned.

My interest in this method of excision was revived by an article of Dr. Henry Gradle, of Chicago, in which was described a very ingenious instrument which seemed to overcome all the difficulties mentioned.

Trial of this instrument has confirmed the belief in its usefulness, and now we are able to use quite a heavy piano wire and accomplish excision in a bloodless manner.

In principle the instrument is not unlike the Sajous snare for the removal of nasal polypi, in that it is threaded with the wire at the extreme end of a trocar which is made to be drawn through a canula.

One awkward feature of the instrument is the position of the key which controls the current. This is placed on the wires some distance from the handle of the instrument and is supposed to be controlled by a finger of the hand which lifts the tonsil from its bed by the tenaculum. In some cases it is necessary to use a tongue depressor to keep the tongue out of the way. I have found considerable difficulty in manipulating the instrument with one hand and with the other using tongue depressor, tenaculum and controlling the key. Perhaps with more familiarity in the use of the instrument the requisite skill may be acquired. It has occurred to me, however, that it is not beyond the skill of the electrician to construct a key in some position on the handle so that it might be controlled by a finger of the hand used to withdraw the canula. The other hand would then be left free to withdraw the tonsil from its bed and depress the tongue. I have used this instrument in the following manner:

Placing the loop of wire around the tonsil an assistant grasps the tonsil through the loop by means of a tenaculum and withdraws it from its bed.

The operator depresses the tongue with his left hand and adjusts the loop about the tonsil with his right hand until it is grasped by the tenaculum in the hands of the assistant; he then removes the spatula and uses the left hand to control the key whilst the assistant keeps the tongue out of the way by means of the handle of the tenaculum.

The right hand is used to manipulate the snare. The trocar is slowly withdrawn into the canula until the tonsil is firmly grasped at such position as is desired. The current is then turned on and is interrupted, or not, as may be deemed necessary or expedient.

The galvano-cautery snare, as perfected by Dr. Gradle, is a distinct addition to our means of attacking this very common malady; that it will supersede older and well-tried methods is not at all probable. A brief study of its advantages and disadvantages may not be profitless.

There are, in children, a large number of rounded and irregularly-shaped tonsils which fill the fauces. This group can be left for the tonsillotome, which does its work thoroughly, and with little or no danger.

There are, however, tonsils of this type which present a vascular appearance with, perhaps, large veins coursing across the surface. Whilst it has not been my misfortune to have had alarming bleeding in cases of this description, it has not been without some little trepidation excision was accomplished. Excision by the snare could here be effected with as much ease and less danger.

Another class of cases belonging to this group are those in which the pillars of the fauces are so stretched out over and adherent to the tonsil as to defy all attempts at separation.

Wounding of the pillars of the fauces is exceedingly apt to give rise to troublesome bleeding, hence again in this class the galvano-cautery seems indicated, for while we wound the pillars we so sear the tissues as to prevent bleeding.

In adults, and especially those in which the tonsils present a hard, fibrous appearance, there is danger of alarming bleeding.

Inasmuch as the galvano-cautery snare removes these tonsils as quickly, as painlessly and as thoroughly as the tonsillotome, and as it is nearly devoid of danger, there is no good reason to omit its use.

We may then include all cases of hypertrophied tonsils in adults as suitable for the use of the galvano-cautery snare, and it is just in this class this instrument will find its largest field of usefulness.

There is not an inconsiderable class in which personal peculiarities may or should influence the operator's judgment. Nervous, irritable subjects, either adult or child, in whom the dread of a cutting instrument is almost unconquerable, will make up a class which may be justly considered suitable for the snare.

Those forms of hypertrophied tonsils which do not project greatly towards the median line, but rather fill the space between the anterior and posterior pillars and extend downwards, are the most difficult with which to deal. The tonsillotome is almost useless, nor does the galvano-cautery snare help us. It is, perhaps, in this type of tonsil that the scissors of Bliss find their greatest usefulness.

The types and divisions might be multiplied, but sufficient has been shown to prove that the galvano-cautery snare has a distinct position in the surgery of hypertrophied tonsils.

As to its work and effects:

The galvano-cautery snare, used with a rather thick piano wire, cuts through the tonsillar tissue in a clean, quick manner, much the same as cutting through cheese with a knife. It is nearly painless when cocaine or eucaine has preceded its use. It is nearly a bloodless operation. The snare may be made to adapt itself to the hypertrophied tissue at its very base, so that more tissue is removed than with the tonsillotome.

It is not always an easy matter to limit the extent of the cauterization. In some cases we find, after the removal of the tonsils, that either through some slight movement, on the part of the patient, or by radiation of the heat, the cauterizing effect has not been confined to the site of the tonsils, and there is a large granulating surface. The wound, after galvanic-cauterization, is quite a formidable-looking affair. Seen by one with no knowledge of the previous operation, it might easily be mistaken for diphtheria, the wound being covered by a whitish slough, or rather eschar, and the surrounding tissues œdematous.

This appearance persists for several days or a week, and is succeeded by a clean, healthy, granulating surface.

In ten days or two weeks the wound has completely cicatrized, the surrounding tissues assumed a normal appearance and all symptoms disappeared.

The reaction, after the use of the galvano-cautery snare, is apt to be more severe than is seen where the tonsillotome is the method employed. In all my cases there has been more or less systemic disturbance. In one case, a boy, aged 12, the day following the excision there was high fever, heavily coated tongue, anorexia, constipation and general malaise. These symptoms lasted two or three days. Usually, however, the unpleasant symptoms are of short duration. The throat is quite sore. The voice is much altered in character, in consequence of the œdema which is nearly always present.

This hoarseness, or alteration, of voice disappears in two or three days. The throat remains sore for a week. The ultimate result leaves little to be desired.

817 Franklin St.

Papilloma of the Nasal Septum, by Dr. A. Logan Turner, Edinburgh.

The tumor, the size of a small orange, was removed from a male, 52 years of age. It resembled a malignant growth, microscopically, but the microscope showed it to be a true papilloma, consisting of a delicate, branching, connective tissue framework containing many blood-vessels with ill-defined walls, and everywhere covered with many layers of epithelial cells, distinctly demarcated from the adjacent tissue.

The patient complained of nasal obstruction, epistaxis, constant discharge, loss of the sense of smell, and dimness of vision on the same side (right). The growth was removed by means of an external operation. An incision being carried from the right inner canthus, down the side of the nose, around the right ala and through the centre of the lip. The growth occupied the whole of the fossa. The superior, middle and inferior turbinated bones of the same side had been absorbed by the pressure of the tumor, which was attached to the bony septum about its middle portion by a broad base. It resembled a typical cauliflower mass, and measured six and a half inches in circumference. Four months after the operation no return of the growth was noticed. M. D. L.

PAPILLOMA OF THE LARYNX RECURRING AS AN EPITHELIOMA—REPORT OF A CASE.*

BY M. R. WARD, M.D., PITTSBURG, PA.

The question of the possibility of the malignant degeneration of benign laryngeal growths, the frequency of this accident and the influence of operative procedure in promoting such transformation, has been so fully presented in laryngological literature during the past decade, that the subject might be regarded as entirely exhausted were it not for the fact that some of the most prominent representatives of our specialty still take such antagonistic positions on almost all the points at issue. We cannot expect that the ghost will be finally laid until a more harmonious state of affairs arises from the clash of conflicting opinions. At the present time we wish to submit a case of interest in this connection, with a few remarks as to the present status of the subject under consideration.

The subject as above indicated, naturally gives rise to three leading questions—the possibility of such transformation, its frequency and the effect of operative interference in bringing it about.

The first point, viz.: The possibility of the malignant degeneration of innocent neoplasms is so closely connected with the interminable question of the ætiology of carcinoma in general, that its discussion would not be in place on this occasion. Few laryngologists would be bold enough to absolutely deny this possibility; it may, however, be remarked that those who follow that insistant and industrious minority of pathologists, who look upon carcinoma as a specific infection, whether due to coccidia, blastomycetes, or what not, are obviously obliged to answer the question in the negative, and all cases of so-called transformation are explained by a super-infection or a mistaken diagnosis of the original growth.

If, on the other hand, with the majority of pathologists, we regard the origin of cancer as epitheliogenetic we can readily admit the possibility of a neoplasm originally benign taking on all the characteristics of malignancy, and as laryngologists, we are chiefly interested in determining in what proportion of cases this transformation takes place, and what effect operative interference has in bringing about this unfortunate accident. In our opinion, little light can be thrown upon these questions by theoretical deduction at the present time.

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*Read at the meeting of the American Laryngological, Rhinological and Otological Society, Washington, D. C., May 1-3, 1897.

They can only be decided by the collation of statistics based upon accurate and candid reports of such cases as come under our observation.

The case I wish to report is as follows:

Miss M. W., age 17, of German parentage, and the eldest of a family of ten children, all living.

Family history: negative as to carcinoma.

Personal history: had measles during childhood. In December, 1893, she had an attack of epidemic influenza, from which she soon recovered; but on trying to sing, she noticed her voice was husky. There was no cough nor dysphagia. The hoarseness continued to grow worse, and in February, 1894, she consulted a physician, who told her she had a growth on her vocal chord, which he treated by applications and sprays to the larynx, with little or no improvement.

In July of the same year, she consulted Dr. Day, of this city, who removed the growth, which was no larger than a pea, pale pink in color, and grew from the left vocal chord near the anterior commissure. The doctor states very positively that there was at this time no question in his mind as to the entirely benign character of the growth, and the microscopic examination made by a competent pathologist confirmed his diagnosis of papilloma. For a short time her voice improved only to again relapse into its former condition, growing gradually worse until November 6, 1895, when she consulted me.

An examination at this time showed the nose and the naso-pharynx to be comparatively normal. On laryngoscopic inspection, the ventricular bands were inflamed and swollen, the arytenoids freely movable. The anterior half of the left vocal cord was completely destroyed by ulceration. The ulcer presented a ragged, irregular, reddish appearance, and surrounding it was an infiltration of the submucous tissue immediately below the left vocal cord, and involving the entire left half of the larynx. The right cord was conjested and swollen, leaving the chink of the glottis narrowed to one-third its normal size. The voice was entirely lost.

Excluding tuberculosis by physical and microscopical examinations, I gave the patient specific treatment in the hope that the ulcer might be syphilitic. Potassium iodide was rapidly increased to one drachm three times a day, while inunctions of mercurial ointment and pill proto-iodide were pushed to their full physiological effect. This treatment was supplemented by cleansing sprays and powdered iodoform to the larynx, and continued for two months, the patient growing worse all the while, the ulceration extending toward the left arytenoid, the infiltration and swelling increasing until the dyspnoea became so alarming that a tracheotomy was necessary.

On the advice of Dr. Delavan, of New York, to whom I described the case, the larynx was sprayed with absolute alcohol in the hope that the disease might be a simple papilloma. The result was disappointing, for at the end of two weeks I was obliged to discontinue the treatment on account of its irritating influence on the already inflamed larynx. This I regarded as confirmatory evidence in favor of malignancy, which I had all the while suspected. But on account of the growth being subcordial, and the chink of the glottis so narrow, it was impossible to remove a portion large enough for a microscopical examination.

On March 10, 1896 (one month after the tracheotomy), the following condition of the larynx existed: Fixation of the left, and very slight movement of the right arytenoid; inter-arytenoid space tumid and œdematous; ventricular bands obliterated by the infiltration and swelling from ulceration of the left vocal cord; the anterior two-thirds of the left vocal chord completely destroyed; the chink of the glottis in full inspiration probably reduced to one-fifth or less of its normal size, through which can be seen, on the left side of the larynx, numerous irregular, nodular masses of diseased tissue, bright red in color. No hæmorrhage until this date. The patient has paroxysmal attacks of coughing; considerable expectoration consisting of white frothy mucous, sometimes streaked with blood, and occasionally containing shreds of necrotic tissue. Some fetor of the breath; complains of tenderness over the larynx; sharp shooting pains in the left ear. She is pale, cachetic and losing in flesh, although her appetite is good and she sleeps well. There is no enlargement of the cervical glands.

I then had Dr. Daly see the patient with me for the second time. In discussing the case, he remarked: "The disease is unmistakably extending, and, judging from the appearance and clinical history of the case, I would consider the growth malignant."

The patient was sent to the Mercy Hospital for a thyrotomy, which was performed by Dr. Stewart and myself on March 14, 1896. On opening the larynx numerous nodular masses of new-formed tissue were found beneath the left vocal cord. These were removed by curved scissors and the entire left half of the larynx thoroughly curetted. The cartilages of the larynx were to all appearances healthy. The hæmorrhage was moderate and easily controlled. The wound was packed with iodoform gauze and dressed open for the first twenty-four hours, at the end of which time the gauze was removed and the edges approximated by adhesive plaster.

The operation and after-treatment were unattended with any incident worthy of note, and on the fifteenth day the patient was able to come to my office.

Portions of the growth were submitted to Dr. Eugene Wasdin, U. S. M. H. S., who kindly furnished me the following report:

"The specimen removed from the larynx, at the anterior attachment of the true vocal cords, gives, in frozen sections stained in hæmatoxylin and eosin, a newly formed connective tissue stroma supporting masses of epithelial cells, squamous in appearance. There is also an increased growth of the follicles common to this mucosa; many showing well-formed ciliated epithelium, others being lined with columnar cells markedly embryonal, or filled with such proliferated young cells. The connective tissue is quite vascular and there is small-celled infiltration. The presence of the flat or squamous cells in this locality, below the normal line of their distribution, gives rise to serious apprehension of the return of the growth; whilst the retrogression of the glandular epithelial cells into their embryonal condition, indicates that such return will prove the malignancy foreshadowed in this picture of mixed epithelial growth, adeno-epithelioma."

The disease soon showed evidence of return and a laryngectomy was decided upon and performed by Dr. Stewart at the Mercy Hospital, June 17, 1896, in the presence of some of the members of the American Laryngological Association, which was in session in Pittsburg. At this time there was no recognizable lympatic involvent. In order to eradicate the diseased tissue it was found necessary to remove the entire larynx, with epiglottis and a portion of the anterior wall of the œsophagus. The trachea was stitched to the lower edge of the wound and a tracheotomy tube inserted. The wound was closed and on the third day an œsophogeal tube was introduced through which the patient was nourished. The wound healed almost throughout by primary union and convalescence was uncomplicated. The disease first showed its return in the cicatrix about the 8th of August. This was soon followed by enlargement of the lingual and cervical glands. The patient died from exhaustion on October 25, more than four months after the laryngectomy.

The case related exhibits a number of unusual features, among them the rather uncommon location of the growth, and the very exceptional age of the patient. We will, however, pass over these points without comment, and proceed to briefly refer to the present status of the question of the malignant degeneration of benign tumors of the larynx, of which this seems to be an unusually well-authenticated example.

The possibility of tumors—clinically and histologically benign—undergoing a malignant transformation was pointed out by the older pathologists, and their dictum on this point has been either tacitly or explicitly accepted by succeeding authorities, notwithstanding the decided difficulty of obtaining absolute proof of such change in any given case. For various reasons, the question in its special bearing on laryngeal neoplasms has excited unusual interest, and perhaps a rather disproportionate amount of discussion. This is, to a certain extent, connected with the tendency among some laryngologists to construct a special and advanced pathology for the larynx, particularly as regards the etiology of intralaryngeal growths. Thus, irritation with resulting hyperæmia and cell proliferation has been assigned a far more prominent role in the causation of laryngeal tumors than it has been allowed by pathologists, when treating of tumors in general. This is not only true of benign growths, but of malignant tumors as well. This position is well illustrated by a quotation from Lennox Browne, who opens a discussion of the etiology of malignant tumors of the larynx with the following remark: [1]. "Promise of profit to be derived from a discussion of the probable causes of malignancy may at first appear as hopeless as the proverbial chastisement of a dead horse; but while this may be, to some extent, true, with regard to malignant neoplasms in general, an exception must be claimed for those in connection with the larynx."

A rather thorough investigation of the literature on the subject at my command, shows distinct change in the attitude of laryngologists toward this entire subject, and Lennox Browne's utterance on this pivotal point would have gained more support ten years ago than at the present time. In marked contrast to this opinion is that of a recent American author, who states: [2]. "The etiology of laryngeal cancer is as obscure as that of the disease in other parts." Some stress should be laid on this point since it bears a very vital relation to the question of degeneration of benign into malignant growths, especially following operations; for, granting that there are no sufficient reasons for believing that the etiology of cancer of the larynx differs from that of cancer elsewhere, we have an *a priori* consideration against the more frequent occurrence of malignant change in benign tumors here than in other organs. And further, we can, in view of the futility of the immense researches that the pathologists have undertaken in the past few years, afford to entirely ignore any theoretical speculations as to the pathogenesis of carcinoma of the larynx. It follows, therefore, that at present a solution of this question can only be hoped for through an appeal to statistics. Semon recognized this fact, and in consequence has furnished us with the most solid and convincing contribution to the literature on this subject. His large number of cases so careful analyzed, has wrought a decided revolution in our views on this question. Browne's original views as to the frequency of malignant degeneration of benign growths, are scarcely tenable to-day, and this distinguished author admits in the last edition of his work that "his experience may have been exceptionally unfortunate."

Gerhardt undoubtedly voices the consensus of opinion, when he states: [3]. "F. Semon has proved that cancerous degeneration of originally benign tumors happens seldom and without anyone's fault."

Since Semon's collective investigation, little original material has accumulated, so that we simply append his totals: [4].

"No. of observers, 107 (covering 1862-1888).
" " benign tumors observed, 10,747.
" " papillomata, 4,190.
" " intra-laryngeal operations on benign tumors, 8,216.
" " intra-laryngeal operations on papillomata, 3,282.
" " papillomata recurring and requiring repeated removal, 480.
" " cases of spontaneous degeneration, 12.
" " cases of degeneration after intra-laryngeal operations, 31."

Semon, for reasons of varying weight, excludes fifteen of the thirty-one recorded cases of degeneration following operation. Even a few of the cases accepted might readily be objected to by the captious critic. These results, though approximate, are none the less positive, and undoubtedly the main conclusions reached are correct.

Semon himself has pointed out with great detail all sources of error. But, after all, the most formidable stumbling block lies in the difficulty of arriving at a positive diagnosis between carcinoma and papilloma in their earlier stages. Clinically, laryngologists have decided that this may be absolutely impossible. Our only resort then is the microscope. Unfortunately it has so often been found indecisive in the past, that some eminent men are beginning to express doubts as to the value of histological examinations in the diagnosis of laryngeal growths. Such cases as those of Lefferts and Semon, where several pathologists arrived at a different diagnosis in reporting on a specimen submitted for examination, admits of a possible explanation on the hypothesis that the growths under consideration exhibited a heterogeneous structure. Beschorner's experience recorded by Semon, where a tumor that had been pronounced malignant by such eminent authority as Birch-Hirshfeld subsequently pursued a benign course, presents a more puzzling problem.

It may be remarked that the adoption of a more uniform and rigid system of nomenclature by pathologists and laryngologists would eliminate some confusing elements. Thus, the laryngologist scarcely recognizes the familiar papilloma under the designation, *pachydermia verrucosa.* On the other hand, we are surprised, in looking over the reports of older laryngologists (e. g. Fauvel), at the frequent mention of seirrhus and encephaloid, knowing that these forms of carcinoma are uncommon in the larynx.

Finally, ruling out sarcoma on account of its rarity in this location, the problem that usually confronts the pathologist, as far as the larynx is concerned, is the diagnosis between papilloma and squamous epithelioma. The chief source of error here lies in the fact that it may be impossible to differentiate histologically between a simple papilloma and the superficial layers of the malignant growth which so frequently are removed in the form of "papillary out-growths," thus often making the picture of the two neoplasms both macroscopically and microscopically identical, and the laryngologist must recognize the fact, that unless he includes the deeper layers in his specimen the microscopist's opinion is open to doubt and uncertainty.

Thanks to the researches of Semon and others, we are convinced of the rarity of malignant changes in originally benign growths, and, further, it has been established that intra-laryngeal operations have but slight, if any, effect in promoting this transformation. As yet, our present records but roughly approximate the truth, and in order to secure greater statistical accuracy we would urge a more careful clinical and microscopical study of our cases:

[1]. Burnett's Syst. Diseases of Nose and Throat, vol. II, p. 767.
[2]. Delavan in Dennis' Syst. of Surgery, vol. III, p. 56.
[3]. Nothnagels Specille Pathol. und Ther.
[4]. Semon, *Internat. Centralblatt fuer Laryngol, etc.*, 1888-89.

Park Building.

Mississippi Valley Medical Association.

The next meeting of the Mississippi Valley Medical Association will be held in Louisville on October 5, 6, 7 and 8, 1897.

All railroads will offer reduced rates.

The President, Dr. Thos. Hunt Stucky, and the Chairman of the Committee of Arrangements, Dr. H. Horace Grant, promise that the meeting will be the most successful in the history of the Association, and this promise is warranted by the well-known hospitality of Louisville and Kentucky doctors.

Titles of papers should be sent to the Secretary, Dr. H. W. Loeb, 3559 Olive street, St. Louis.

THE RAPID DILATION OF STRICTURES OF THE EUSTACHIAN TUBE BY ELECTROLYSIS.

BY ARTHUR B. DUEL, M.D., NEW YORK.

For a number of years past we have been taught that the electrolytic action of the negative pole of the galvanic current exerted a most powerful influence in retarding the growth of tissues, and in causing the reabsorption of hyperplastic connective tissue.

In an article on "Electricity in Medicine," read before the New York State Medical Society, 1895, Dr. William J. Morton says: "As a result of long experience I have learned, and have taught for many years, that the negative pole is emphatically the right pole, and the best treatment to apply in all cases of chronic inflammation, so-called—that is to say, in all cases where, from causes like traumatism, infectious processes, rheumatism, and so forth, a hyperplasia of connective tissue and an impaired local nutrition exist—in such cases, be the resulting chronic inflammatory process within the pelvis, within organs, in joints, nervous structure, muscles, or skin, wherever newly formed fibrous tissue may have located itself, the negative pole, and it alone, exerts what may be termed a resorptive action." From an experimental study of its value in other locations, the author was led to make use of it in the rapid dilation of strictures of the Eustachian tube, occurring in chronic tubal catarrh, and chronic catarrhal otitis media of the hyperplastic variety.

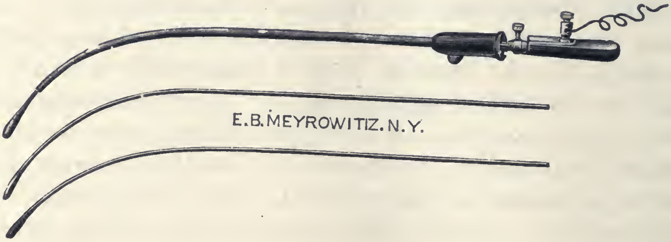
In the preliminary report published in the *New York Medical Journal*, January 16th, 1897, the method of its use was described. For the sake of completeness, I will insert here a description of the apparatus, and method of use, copied from that article.

"For the purpose of conducting the current I have had four copper bougies, varying from No. 3 to No. 6 (French scale), securely mounted on No. 5 piano wire. These are passed through small, insulated, pure silver catheters and drawn back until the bulging portion of the bougie fits tightly in the mouth of the catheter.

"(The catheters are insulated by drawing thin rubber tubing over them, or by winding with silk and afterwards coating them with shellac. Hard rubber catheters were used at first, but they are not as readily bent to fit different patients, and are not stiff enough.)

"The other end of the wire is fastened 1½ inches from the funnel-shaped end of the catheter to the handle which connects it with the negative pole of the battery, as seen in the cut. The indifferent or positive pole is connected with the hand of the patient by means of an ordinary contact electrode. It is absolutely essential that the battery with which the current is applied should be supplied with a perfect rheostat and milliampere-meter.

"The tube is bougied in the usual manner, the tip being pushed forward until it is felt to be obstructed by the constriction. The current is then slowly turned on, until from two to five milliamperes are used. It is never necessary to use more than this, and probably the best results are obtained by a longer contact with a small amperage than *vice versa*.



"After a contact of from two to five minutes the bougie is felt to pass on through the softened stricture with a slight pressure. In some instances the bougie encounters more than one constriction before it passes into the tympanum. The bougie is then slowly withdrawn through the constriction, and the current gradually turned off before the catheter is removed. The current should never be opened or closed suddenly."

I wish now to report the results as briefly as possible in ten cases, treated in Dr. Dench's clinic, to whose courtesy I am indebted for the opportunity of carrying on the experiments.

Case I.—R. T., male, 19, came to N. Y. Eye and Ear Infirmary, August 5th, 1896, with following history: Family history negative. Has always enjoyed good health, with the exception of measles in childhood, until five years ago, when he had a severe attack of influenza. Ever since that time there has been impairment of hearing and tinnitus aurium on the right side, and occasional attacks of vertigo. The impairment of hearing and vertigo have grown gradually worse. Physical examination shows right membrana tympani very much retracted. Right Eustachian tube, on inflation with catheter, markedly contracted, allowing only the slightest amount of air to enter tympanum. Functional examination shows left ear to be practically normal, except for slight raising of lower tone limit.

Right ear: acoumeter, 3 feet; whisper, 6 feet. Upper tone limit, 2.0. Galton; lower tone limit, 512 V. S. Bone conduction increased. No improvement after inflation.

October 14th.—Cotton bougie, two-per-cent. solution silver nitrate, passed into tympanum. Immediate improvement in hearing—whisper, 24 feet.

October 16th.—Says improvement lasted only a few hours. Functional examination same as at first.

October 23d.—Inflation by catheter fails to give relief. Cotton bougie again passed as before.

October 25th.—Immediate relief, which lasted for a few hours only.

November 9th.—Repeated inflations have failed to give any relief. A metallic bougie, No. 4, French, attached to the negative pole as described above, was passed in for about three-quarters of an inch, when a tight constriction was encountered. The current was now turned on, a strength of three milliamperes being used. After a few minutes the bougie passed on for a short distance under moderate pressure. In this manner it was slowly pushed on through a long constriction, about fifteen minutes being consumed before the bougie passed into the tympanum. After withdrawing the bougie the relief was immediate, as it had been with the cotton bougie. There was a marked difference, however, in the length of time during which the relief was experienced.

November 12th.—Says he now hears at home the tick of an alarm clock with right ear 20 feet distant, which he was not able to hear previously more than a few inches from the ear. The tinnitus is much less apparent. No more vertigo. Examination previous to inflation: whisper, 24 feet; acoumeter, 20 feet.

November 18th.—There has been no relapse in hearing as on former occasions after cotton bougie. Tests made three times a week show same results. Still some evidence of contraction of tube, although a good volume of air enters tympanum through the catheter. Bougie No. 5, French, passed in same manner as before.

November 30th.—Tube well open. No. 6, French, passed. There has been no relapse.

December 30th.—The tube has been well open for past month. No bougie necessary. Hears whispers with right ear 25 feet. Acoumeter, 24 feet. No tinnitus aurium and no vertigo for several weeks.

Case II.—R. S., male, 39, has never had any serious illness. For past ten years has had impairment of hearing and tinnitus in both ears, with attacks of vertigo.

Physical Examination shows both membranæ tympani retracted. Marked constriction of both Eustachian tubes.

Functional Examination.—Acoumeter, right, 3 feet; left, not at all. Whisper, right, 30 feet; left, 4 feet.

Tone limits: Upper right, 2.5. Galton; upper left, 3.3. Galton; lower right, 128 V. S.; lower left, 1024 V. S.

No improvement after inflation.

November 11th.—Right tube bougied, No. 5, French, negative pole, 2 to 4 milliamperes.

November 13th.—Left bougied in same manner.

November 16th.—Now hears acoumeter, right, 11 feet; left, 1 foot. Says the vertigo has entirely disappeared, and the tinnitus very much lessened. Both tubes admit air to the tympanum quite freely.

Case III.—W. L., male, 27, scarlet fever two years ago, general history otherwise negative. For past year has been troubled with vertigo at all times, most marked for an hour or two after rising in the morning. Impaired hearing and tinnitus noticed on right side for five months past.

Physical Examination shows retracted membrana tympanum on right side, and marked constriction of right Eustachian tube prevents air from entering tympanum through the catheter.

Functional Examination.—Acoumeter, right, 20 feet; left, 30 feet. Whisper, right, 25 feet; left, 30 feet. Bone conduction normal.

Tone limits: Lower right, 54 V. S.; lower left, 40 V. S.; upper right, 1.4. Galton; upper left, 1.4. Galton.

November 9th.—Constriction of right tube dilated with No. 5, French bougie, two and one-half milliamperes; ten minutes' contact.

November 16th.—Hears whispers, right, 30 feet; acoumeter, 30 feet. The vertigo has entirely disappeared. Tube admits air, but still narrow. Dilated with No. 6, French, used in same manner.

November 23d.—No reappearance of vertigo. Slight tinnitus present.

December 30th.—Has not returned for five weeks, because he "felt perfectly well." No vertigo since last note. Slight tinnitus. No. 5, French, used as before; tinnitus immediately stopped.

Case IV.—B. G., female, 54. General history negative. Six months ago caught cold in the head and suddenly began to have tinnitus and impaired hearing in right ear. The tinnitus is now constant and is apparently growing worse. Physical examination shows right membrani tampani retracted. Eustachian tube constricted.

Functional Examination.—Acoumeter, right, 1 inch; left, 30 feet; bone conduction diminished.

Tone limits: Upper right, 2.0. Galton; upper left, 2.3. Galton; lower right, 512 V. S.; lower left, 40 V. S.

Inflation for several weeks without improvement.

December 4th.—No. 5 French bougie, 3 milliamperes, 10–15 minutes' contact, passed through constriction into tympanum. Immediately after, right, whisper, 10 feet; acoumeter, 6 inches.

December 12th.—Tube admits air quite freely; tinnitus improving under inflation twice a week.

CASE V.—J. L., male, 59. Impaired hearing, left side, for six to eight years; constant loud tinnitus and dizziness. Membrana tympani retracted, left tube narrow.

November 16th.—The left tube was dilated with No. 5, French, as in previous cases.

November 20th.—Patient returns, saying his hearing is "fifty per cent. better than it has been for years." Tinnitus and dizziness very much diminished. Functional examination shows improvement of five feet in whisper and acoumeter distance on side which has been bougied.

CASE VI.—J. L., male, 42. Impairment of hearing, with constant loud tinnitus on left side for past six years. Physical examination shows left membrana tympani retracted, and left tube constricted.

Functional Examination.—Whisper, left, 20 feet; acoumeter, 2 feet; right, whisper, 30 feet; acoumeter, 30 feet.

December 21st.—Bougie No. 4, French, passed through left tube as in previous cases.

December 23d.—Acoumeter, left, 4 feet; whisper, 30 feet. The patient says he hears ordinary conversation better. Tinnitus considerably diminished.

January 4th.—The patient says his hearing for ordinary conversation is better than for years; the tinnitus is still present, though considerably diminished.

CASE VII.—E. M., female, 42, has had impaired hearing and constant loud tinnitus in right ear for past six weeks. The right membrana tympani is retracted, and the right Eustachian tube admits practically no air into tympanum on inflation.

December 21st.—A No. 5 French bougie, two milliamperes, passed slowly into tympanum.

December 23d.—The tinnitus is much diminished; marked improvement in hearing (tests not made). The tube admits air freely.

December 28th.—The tube is open; the tinnitus is very slight, and the hearing is greatly improved.

CASE VIII.—R. H., male, 28, was referred to me by Dr. J. F. McKernon, with history of deafness, tinnitus, and occasional attacks of pain for the past eleven months. Inflation had failed to give relief. Both membranæ tympani were retracted and Eustachian tubes constricted. Two attempts at passing cotton bougies had been abandoned on account of narrow constriction and great pain attending the operation.

November 18th.—A No. 5 French bougie, with a current strength of three milliamperes, was passed through both tubes. Immediate relief. Inflation two days later shows tubes to be quite patent. Two weeks later returns saying that he has not been back before because he is perfectly well. The tinnitus has entirely disappeared, and so far as he can see the hearing is again normal.

CASE IX.—M. F., female, 68, complains of deafness and tinnitus for several years, most apparent on left side.

Functional Examination.—Left, whisper, 20 feet; acoumeter, 6 feet.

December 23d.—A constriction of the left tube dilated with No. 4 French bougie, in same manner as above. Immediately after, acoumeter, 16 feet.

January 4th.—The patient returns, saying that his hearing has been much better on left side. Acoumeter, 20 feet; whisper, 26 feet.

CASE X.—C. S., female, 20. Measles in childhood, influenza five years ago, followed by impairment of hearing and tinnitus in both ears, gradually growing worse up to present time. Physical examination shows both membranæ tympani much retracted, and both tubes very much stenosed, admitting only a slight amount of air on inflation.

Functional Examination.—Acoumeter, right, 6 inches; left, 6 inches. Whisper, right, 15 feet; left, 15 feet. Bone conduction, 256 fork, diminished.

Tone limits: Upper right, 2.3. Galton; upper left, 2.3. Galton; lower right, 256 V. S.; lower left, 256 V. S.

Repeated inflations have failed to produce any improvement.

December 21st, 1896.—The right tube dilated with No. 4 French, two to three milliamperes current strength, and a contact of ten to fifteen minutes. Immediately after, acoumeter, 5 feet.

December 23d.—Acoumeter, right, before inflation, 8 feet; after inflation, 14 feet. The left tube dilated in same manner. A very tight constriction encountered near the mouth. Acoumeter (immediately after without inflation), 14 feet.

December 28th.—The patient says there is a marked improvement in hearing for everything at home. Inflated.

December 30th.—The improvement continued until yesterday, when the hearing became dull again. Both tubes dilated with No. 5, French, three milliamperes, as before. Immediate improvement.

January 4th.—Improvement holds good. Inflated.

One has but to glance at the functional examination before and after the use of the bougie, in the cases reported above, to be convinced that in electrolysis, used in the manner indicated, we have the best method yet described for overcoming strictures of the Eustachian tube, because the dilation is more quickly and surely accomplished, and the result more permanent.

Moreover, we have in it a valuable operative procedure, easily carried out, which promises hope of relief from the vertigo, tinnitus aurium, and impairment of hearing, from which a large percentage of patients suffer in spite of all efforts to cure them.

14 West 32d street.

The Significance of Palatal Deformities in Idiots. (*Medical Record*, *June 5*, *1897*.)

In an editorial, this journal quotes the observations made by Dr. Channing, who has given this subject much time and consideration. His conclusions are as follows:

1. Two-fifths of the palates of idiots are of fairly good shape.
2. Palates of normal individuals may be deformed.
3. In the idiot it is a difference in degree and not in kind.
4. In either case it shows irregular development anatomically.
5. Palates of average children and idiots, under eight years of age, probably do not in the majority of cases markedly differ.
6. There is no form of palate peculiar to idiocy.
7. The statement that a V-shaped, or other variety of palate, is a "stigma of degeneracy" remained to be proved.

In the opinion of Dr. Frederic Peterson, "The deformed palate is one of the chief anatomical stigmata of degeneration." Talbot, Charon and Clouston incline toward the same sentiment.

Channing's statistics, however, show that the deformed palate occurs as frequently in one type as the other. M. D. L.

EXPERIMENTS ON THE EUSTACHIAN TUBE BY MEANS OF THE TONGUE THRUST INTO THE NASO-PHARYNX.

BY HAMILTON STILLSON, A.M., M.D., PH.D., SEATTLE, WASHINGTON.

The writer has elsewhere ("Uses of the Tongue Post-Nasally in the Treatment of Post-Nasal Catarrh") described his method of teaching patients to thrust the tongue up behind the palate in the cleansing and the medicating of the naso-pharynx in post-nasal catarrh. It is desired in this paper to indicate how the tongue so placed may demonstrate the answer to a few mooted questions relative to the Eustachian tube.

With normal conditions, any patient who can command reasonable control of the movements of the tongue and soft palate can learn to feel the pharyngeal end of the Eustachian tube with the tip of the tongue, and by careful practice he can learn to swallow while the tip of the tongue is placed against the pharyngeal orifice of the Eustachian tube. He may, therefore, train himself to observe the phenomena of the opening and closing of the tube, and the elongation and shortening of that part of the tube projecting into the fossa of Rosenmüller.

One question to settle is whether the normal Eustachian tube is open throughout its entire length. That is to say, whether the tympanic cavity openly communicates in the normal state with the naso-pharyngeal cavity. This question has long been debated. The most recent experiments on it have been conducted by Hammerschlag, who, at the first Austrian Otological Congress, held June 28th and 29th, 1896, gave a report of thirty observations upon four normal hearing individuals with the following results:—

"The membrana tympani exhibit constant movements coincident with the systole of the heart:

"The membrana tympani moved during quiet respiration in all cases during the inspiration outwardly, during the expiration inwardly. During quiet respiration through the mouth these respiratory movements are less extensive."

Hammerschlag, therefore, arrives at the following conclusion:—

"The tympanic cavity openly communicates in the normal state with the naso-pharyngeal cavity."

He explains it by saying that, "The expiratory air current draws the air along from the tnbe and tympanic cavity, according to the principle of the syphon, whereby the drum membrane is moved inwardly.

"The inspiratory air current then enters the tympanic cavity so much easier, since it now represents a *locus minoris resistentiæ.*"

The instrument used by Hammerschlag was one especially devised by himself, being a modification of that of Mach.

In reply to Hammerschlag, I would say: First, that the expiratory current of air could not draw the air along from the tube and tympanic cavity, according to the principle of the syphon, because the air in the naso-pharynx is condensed in expiration. The air in all the adjacent cavities that openly communicate with the naso-pharynx is condensed in expiration.

I would say, second, that the force of the inspiratory air in the nose is not directed toward the Eustachian tubes, but towards Luschka's tonsil.

If you will moisten a piece of gauze with a weak solution of iodide of potassium, and by means of the tongue thrust it up into the naso-pharynx and carefully coapt it against the posterior wall of that cavity, and then inhale through the nostrils a nebulized solution of starch, you will discover that the most of the starch particles have collected on the gauze in the region of Luschka's tonsil. I can imagine that there is a whirpool produced in the nasal air, in the region of Luschka's tonsil, that will go far towards indicating to us the office of that body.

I would say, in the third place, that these pulsatory and respiratory movements may be easily observed by means of an ordinary manometer. I prefer that the manometer be made with longer legs than the one Politzer used, and that the portion of the tube where the index stands should be made smaller than the rest of the tube. For instance, take a glass tube, two-thirds of a millimeter in diameter, bend it in the shape of a meat-hook, drawing out a part of the leg that is next to the ear to a diameter of one-third of a millimeter. Let the legs be one and one-half inches long. Thrust the straight end through a rubber cork, place a drop of colored alcohol in the tube as an index, and hermetically seal the rubber cork in the ear. With a mirror in front of you and a bright light behind you the slightest movement of the colored index is observable. With the manometer so placed, open the jaws wide and thrust the tongue well down, as in the act of yawning. The Eustachian tube will be felt to open, the expiratory breath will be felt in the middle ear as a warm breath, while the entering air will be felt as cold to the pharyngeal orifice of the Eustachian tube, but not to the middle ear. In other words, it will feel as though the tube were open. Observing the index in the manometer it will be seen to go extensively out in expiration, and extensively in in inspiration, indicating movements of the membrane reverse to those given by Hammerschlag.

If now the tip of the tongue be thrust into the naso-pharynx and the mouth of the Eustachian tube closed by it, and the rest of the experiment repeated, the movements observed will cease. The index will not make the excursions formerly observed so long as the tongue closes the Eustachian tube.

As a second set of experiments, place the jaws as in ordinary respiration, place the manometer as before and respire with ordinary respiration, first through the nose and then through the mouth. It will now be seen that the movements of the index are the same as those mentioned by Hammerschlag. That is to say, in inspiration the index moves outwardly, in expiration it moves inwardly. In respiration through the nose the movements of the index are somewhat more extensive than when the respiration is performed through the mouth. They are more extensive in forcible respiration than in quiet respiration.

If now the tongue be thrust into the naso-pharynx, and the pharyngeal orifice of the Eustachian tube be closed by the tongue, the movements of the index, while respiration proceeds, will continue as before—outwardly during inspiration, and inwardly during expiration. (It ought to be remarked that there is pulsation of the index synchronous with the pulsations of the heart, there being an inward pulsation during systole, and an outward pulsation during diastole.)

Manifestly then, the respiratory and pulsatory movements of the membrana tympani, observed by Hammerschlag, have nothing to do with the opening or the closing of the Eustachian tube. They will continue whether the tube is open or closed.

Second, when the tube is manifestly open the excursions of the membrana tympani are the reverse of those observed in ordinary respiration.

Third, when the tube is manifestly open, as in the act of yawning, and it is then manifestly closed by means of the tongue tip, a condition of the tube is brought about similar to that ordinarily observed. From all these experiments it would be concluded that the Eustachian tube is normally closed at some point, but since the pharyngeal orifice of the tube can be seen to be open, and can also be felt to be open by means of the tongue, the normal closure of the tube must be somewhere other than at the pharyngeal orifice.

It is not within the province of this paper to enter into a theoretical explanation as to the cause of these movements in the membrana tympani, but it seems to me the causes are traceable to blood pressure.

We know that during systole of the heart there is an increase of blood pressure in the head. We know that in the expiratory movements of respiration there is an increased blood pressure in the head. Now, if during systole, and also during expiration, the membrana tympani move inward, it is reasonable to infer that the inward movement of the drum membrane spoken of by Hammerschlag is due in some way to increased blood pressure in the head.

If it be objected that, after all, the inward movement of the manometric index in increased blood pressure of the brain is not proof that the membrana tympani moves in the experiment, I would remark that when the membrane is perforated the movements in the index will be reversed, namely, outward during systole. Moreover, in cases of ankylosis of the stapes, and in cases of sclerosis of the membrane, there are no pulsatory or respiratory movements of the index. The excursions of the index are, therefore, of diagnostic importance.

Another problem on which I would ask your experimentation is whether tbe pharyngeal orifice of the Eustachian tube is closed during the act of swallowing. This is such a practical question, and one whose answer will affect so materially the treatment of diseases of the tube, that the writer would wish his conclusions to be verified. The concensus of opinion is that the tube is opened during the act of deglutition. Gruber says (Diseases of the Ear, page 68): "No one to-day seriously doubts that the tuba Eustachii is, under normal circumstances, opened during deglutition * * * *." Also (page 183), (This) "appears distinctly from the fact that air can be introduced through the catheter more easily during the act; less force being required to compress the air-bulb, and the auscultation sound at the same time being more distinct and louder."

Now, we have shown that when in a quiescent state the tube is open at its pharyngeal orifice, and closed, likely, at its isthmus. If, then, a catheter be inserted into the pharyngeal orifice, and air be forced through the catheter, will the isthmus be more readily blown open at a time when the pharyngeal orifice is more widely opened or more tightly closed? Would not the isthmus feel the impact of the in-rushing air better if the pharyngeal orifice should be closed around the catheter than if the pharyngeal orifice were pulled more widely open?

If you will insert a catheter into your Eustachian tube and then thrust your tongue behind your velum palati, and feel the behavior of the tube, you will learn that in the act of swallowing, the pharyngeal portion of the tube is drawn up and pushed up and tightly coapted around the catheter. This coaptation of the pharyngeal portion of the tube to the catheter is accomplished mainly, as you will learn, by the constrictor muscle. You will remember that the superior constrictor muscle encircles the Eustachian tube in its fibers, and that the anterior insertion of its fibers is in the velum palati. You will remember also that the anterior and inferior wall of the Eustachian tube is membraneous, the anterior wall being attached to the pterygoid plate. When, therefore, the constrictor fibers contract, the soft palate is drawn up against the Eustachian tube coapting its membraneous wall against its cartilaginous wall, the constrictor fibers acting as a draw-string. If the catheter is inserted into the pharyngeal orifice of the tube and the draw-string closes around the catheter and the dorsum of the tongue assists in condensing the tissues around the catheter, the air blown through the catheter then is caught and held in the Eustachian tube and easily condensed sufficiently to blow the isthmus open. I am inclined to believe also that since the abductor tubæ muscle arises from the cartilaginous portion of the tube near the isthmus and is inserted into the velum palati, it assists not only in closing the pharyngeal orifice, but in opening the isthmus at the same time.

Of course, in Politzerization, the air is more readily forced into the Eustachian tube during the act of swallowing for reasons similar to those that are given in explanation for the Valsalvian experiment, namely: when the velum palati is coapted against the back wall of the pharynx the air in the nose is more easily condensed, a point of condensation soon being reached that is sufficiently great to blow the tube open from one end to the other. But even in Politzerization the closing of the tube by the act of swallowing may be observed if the conditions are such as are required by the necessities of the experiment. Instead of using high pressure in Politzerization, let us use only sufficient pressure lightly to open the Eustachian tube, and then swallow. You will feel the tube close. That is to say, let all the air from your air-tank escape but two or three pounds. Insert a Politzerizing nozzle into one nostril and close the other and turn on the air, and with the dorsum of the tongue close the naso-pharyngeal exit. You will feel the air lightly enter the tympanum. Now swallow, and during the second stage of the act you will feel that the Politzerization ceased during that stage of the act.

Gruber attempts to substantiate his position also by referring to a case reported by Nicoladoni (*Monatsschrift fuer Ohrenheilkunde*, 1875, No. 8). Nicoladoni saw, in a case which was operated upon, a hæmatoma at the orifice of the Eustachian tube sink deeper into the tube during each act of swallowing and return again to its previous position after the act was over. Gruber thinks this speaks irrefutably for the opening of the tube during the act of swallowing. A reference to the literature of Nicoladoni's case will reveal the fact that the hæmatoma was inside the orifice of the tube. Now, if the orifice of the tube were more widely opened in deglutition, would not the tumor be more apt to gravitate further down and out of the tube? The reverse occurred. It must, therefore, have been forced up into the tube further during deglutition.

If you will thrust your tongue into the naso-pharynx you will observe that at the beginning of the second stage of the act of swallowing, the dorsum of the tongue pushes the soft palate upwards and backwards, and that the superior constrictor muscles, together with the tensor palati and palato-tubal muscles, squeezes the pharyngeal end of the Eustachian tube, constricting it into the fossa of Rosenmüller, and that the belly of the palato-tubal muscle acts somewhat on the plan of a piston, first bunching up before the orifice of the tube and then drawing up against the tube at its membraneous portion, pushing anything up further into the tube which may lie in the orifice of the tube; so that Nicoladoni's case, instead of indicating the opening of the tube during deglutition, would manifestly indicate the reverse.

(Dr. Stillson here took occasion to refer to Dr. Loeb's case of the lady whose nose had been removed for the removal of an epithelioma, and whose naso-pharyngeal cavity could be viewed through the nasal meati, and called the attention of the physicians examining her to the fact that the velum palati was pulled up against the pharyngeal orifices of the Eustachian tubes when the woman swallowed and when she coughed.)

Politzer (Diseases of the Ear, page 71) attempts to prove by manometric observations that the Eustachian tube is opened during deglutition. He inserts a small manometer, with a colored fluid index, hermetically into the external meatus. He says: "During the Valsalvian experiment the fluid was seen to rise (in the manometer). If the act of swallowing were performed with a closed mouth and nose, during the first stage of this act a slight rise (positive pulsation) of the fluid in the manometer took place, followed, however, during the second stage, by a considerable fall (negative fluctuation), as the air in the tympanic cavity is rarified and the tympanic membrane is pressed inward. The fluid will now remain in the place where it fell to after the act of swallowing and will return to its former place only when the closed Eustachian tube is reopened by another act of swallowing with open nostrils."

In reply to this statement made by Politzer, we would say, first, that fluctuations of the index in the manometer can be produced in various ways. Under proper conditions pulsations may be observed in quiet respiration, in active pulsations of the heart, in forcible suspension of respiration, in opening and closing of the mouth, in contraction and relaxation of the masseter muscle, in forcible upward and downward movements of the dorsum of the tongue, in forcible backward and forward pushing of the velum palati, etc., etc. So that to make the experiment exact, and to make it conclusive as an experiment on the Eustachian tube we must be careful to eliminate all forces causing positive or negative fluctuation in the manometric fluid, except those directly concerned in the opening and the closing of the Eustachian tubes. Let us, then, hermetically seal the manometer into the external auditory meatus, take a swallow of water into the mouth, closing the jaws gently, force the dorsum of the tongue up against the soft palate until the soft palate is against the posterior wall of the pharynx, and then let the fluid in the manometer come to rest, still gently refrain from respiration, close the nostrils gently with the thumb and forefinger and swallow. There will be, as Politzer says, first, positive or outward fluctuation of the manometric index, followed by increased negative or inward movement of the index. The initiatory positive fluctuation is wholly ignored by Professor Politzer for some unknown reason, yet if the Eustachian tube were simply opened in the initiatory act of swallowing, this outward positive fluctuation could not occur, for, with the soft palate in the position I mention, there could be no initial condensation of the air in the nose.

With the velum palati as elevated as possible, and with the nostrils closed, there would be downward movement of the velum palati, resulting simply in rarefying the air in the nose and tympanum alike. This can be demonstrated. Let another manometer be inserted into one of the nostrils, letting the velum palati be pushed up by the dorsum of the tongue as far as it can go; let the other nostril then be closed, and the fluids in both manometers be permitted to come to rest; an act of swallowing will then produce initial positive fluctuation in the ear manometer, but not in the nose manometer. There must, therefore, be some initiatory condensation of the air in the tympanum that does not occur in the nose when the nostrils are closed. What is it, and what is its cause?

If you will close your nostrils as before and thrust your tongue gently over the pharyngeal orifice of the Eustachian tube and swallow, you will observe what this initiatory condition of the air in the tympanum is, for you will feel by means of your tongue tip a few bubbles of air escaping from the orifice of the Eustachian tube just before you see the positive fluctuation in the ear manometer. The air, then, is condensed in the Eustachian tube before the air in the typanum is rarefied in the act of swallowing, and this initiatory condensation of the air in the tube is caused, not by the condensation of the air in the nose, but by a closure of the pharyngeal orifice and a lessening of the caliber of the tube itself. And if it be argued that after all the air is finally rarefied in the tympanum at the close of the Valsalvian experiment, I want to remind you that before that stage in the act of swallowing, which is concerned with the Eustachian tube, is really begun, the soft palate is pushed high into the naso-pharynx, but that at the close of the act of swallowing, the velum palati falls quite an appreciable distance before communication with the air in the lungs is re-established. With the nostrils closed the velum palati and the tongue would greatly rarefy the air in the nose. When the velum palati and the tongue had descended a sufficient distance the pharyngeal orifice of the Eustachian tube would be pulled open again and a point of rarefaction of the nasal air would at the same time be reached of sufficient degree easily to cause rarefaction of the air in the tympanum. This final rarefaction in the tympanum in the Valsalvian experiment proves nothing as to the opening or closing of the tube. In ordinary deglutition it does not occur.

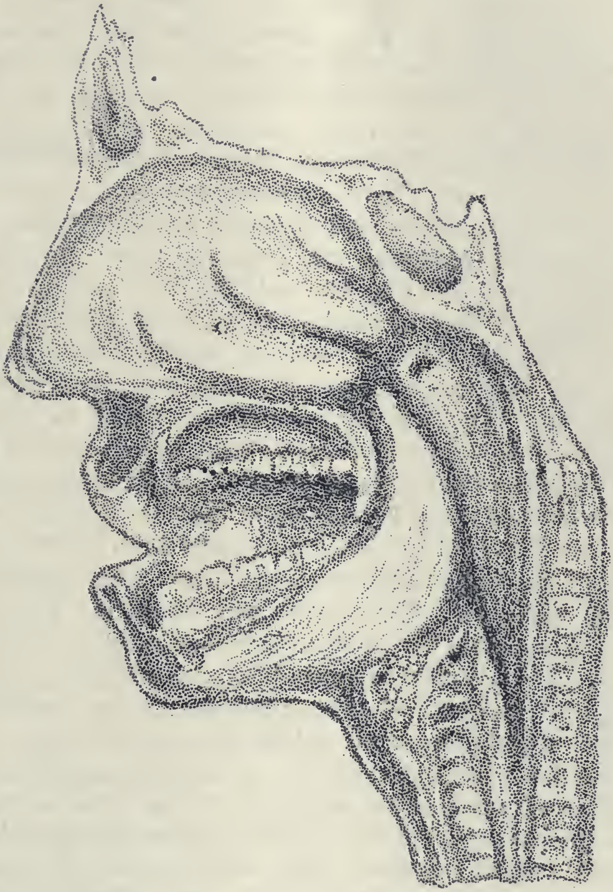
We come now to the tuning-fork tests. Politzer says (Diseases of the Ear, page 70): "The Eustachian tube is opened wide during the act of swallowing * * * *. This can be proved * * * *. If a vibrating tuning-fork is held in front of the nostrils, a uniformly weak sound can be heard in both ears; during the act of swallowing, however, the tone of the tuning-fork will be perceived in both ears greatly increased."

Politzer thinks this to be proof positive that the vibrations of the tuning-fork penetrate unchecked into the tympanic cavity through the open Eustachian tube. But by means of the tongue pressed against the pharyngeal orifice of the Eustachian tube we can demonstrate that the ears hear the tuning-fork better in deglutition, not because the tubes are then opened, but because the tubes are then closed. Hold the vibrating tuning-fork in front of the nostrils, thrust the tongue well into the naso-pharynx until it closes both Eustachian tubes and the passage from the pharynx into the naso-pharynx, the sound of the tuning-fork will then be perceived in both ears, greatly increased. The reason for this is easily demonstrable. If I close both nostrils and hold the vibrating tuning-fork in front of my open mouth, and then thrust the dorsum of the tongue up against the soft palate, closing all connection with the naso-pharynx, I will hear the sound of the tuning-fork increased, and can increase or decrease the volume of the tone by closing or opening the communication between the mouth and pharynx. Indeed, if I close the nose and the ears and the mouth, and hold a hollow vessel, as a glass tumbler, a foot or so in front of my face, and place a vibrating tuning-fork, alternately, in front and to the side of the tumbler without increasing or decreasing the distance of either object from the ears, just as the fork gets in front of the mouth of the tumbler I will hear the sound of the tuning-fork, greatly increased; or, to make the experiment conform more closely to the requirements, let me take a large, short tube, as a gas-lamp chimney, and place a vibrating tuning-fork in front of one end of the tube, and while the fork is sounding, let me, alternately, close and open the other end of the chimney with my hand. When the end is closed by my hand I will hear the sound of the fork, greatly increased. Evidently when I close the end of that chimney I convert the chimney into a reverberating cavity, whose walls catch and intensify the sound without reference to the Eustachian tubes.

As a further experiment, let us close both nostrils and the mouth and listen to the vibrating tuning-fork. If we will eliminate the clicking and crackling sounds made by the soft parts of the nose and throat, we will discover that during the act of swallowing we hear the sound of the tuning-fork increased. If, while the tuning-fork is sounding, we will thrust our tongue into the naso-pharynx and press firmly against the Eustachian tubes, we will discover the fact that the ear hears better when the Eustachian tube is closed.

To sum up, then, we may, by means of the tongue thrust into the naso-pharynx, feel the pharyngeal orifice of the Eustachian tubes normally open; we may feel bubbles of air escaping from the tube in the act of swallowing, proving condensation of the air in the tube; we may feel that in the middle of the act of swallowing, the belly of the palato-tubal muscle is drawn up against the mouth of the tube; we may feel that muscle, together with the muscles of the tongue, palate and pharynx, closing the pharyngeal orifice of the tube, pressing it into the fossa of Rosenmüller; we may feel that in the latter portion of the act of swallowing, the palato-tubal muscle relaxes and the restoration of the other muscles to their former state, restoring the normal patency of the pharyngeal orifice of the tube.

(The accompanying cut represents the tongue thrust into the nasopharynx. The cut is in error, however, as it represents the pharyngeal orifice of the Eustachian tube too high up.)



CLINICAL REPORTS.

SOME NOTES ON A CASE OF ERYSIPELAS INVOLVING THE FRONTAL SINUS, ORBIT AND MENINGES.

BY NORTON L. WILSON, M.D., ELIZABETH, N. J.

Mr. W., aged 33, salesman. Robust until Thursday, July 25th, when he was taken with chill followed by fever, pain, redness and swelling on right side of nose. Friday, July 26th, Dr. W. was called to see the case, and upon examination found what he supposed was an abscess in the right nostril. He incised the swelling but failed to obtain pus. Patient continued under his treatment until July 30th, when he entered the Elizabeth General Hospital. Upon admission patient presented the following signs and symptoms: Right side of nose and face was red, tense and boggy. The eyeball was pushed forward and its movements almost entirely destroyed. The eye-lids were markedly swollen and chemosis was very great. The temperature was $103\frac{4}{5}$, pulse 120, occasionally slight delirium. The case came under the care of Dr. M., who at once diagnosed an orbital abscess; he made an incision into the orbit through the upper lid, but found no pus. Upon inspecting the nostril he discovered what he supposed was an abscess, plunged a bistoury into it without obtaining the creamy fluid. In the afternoon of the same day I was asked to see the case. The temperature was still $103\frac{4}{5}$, pulse 120, but weaker than formerly. The man was restless and presented the appearance of one suffering from cerebral irritation. The lids were enormously swollen and the eye-ball fixed; it was pushed forward and the conjunctiva greatly swollen. The pupils were slightly contracted and did not respond to light.

The case had every appearance of an erysipelatous cellulitis of the orbit with involvement of the meninges. Owing to the swelling of the lids and the contraction of the pupil, a satisfactory ophthalmoscopic picture could not be obtained. The cornea began to lose its lustre, and fearing the intense pressure would cause a slough, I slit the lids at the outer angle, thus relieving the pressure. Iced cloths were then applied, and the next morning the swelling was not so great, but the patient had become comatose, and the temperature had risen to $105\frac{1}{5}$. The temperature was reduced to $95\frac{1}{5}$ by an ice-water enema—a drop of ten degrees. I could scarcely credit this, but my house physician assures me this is correct. I have seen the temperature in typhoid fever brought down several degrees by the use of cold water enematic.

The patient died on the afternoon of July 31st.

The autopsy showed a purulent Lepto meningitis of the convexity of the posterior lobes. The cellular tissue in the orbit was œdematous, but no pus was found. The mucous membrane of the frontal sinus was swollen and a small amount of pus was present. Unfortunately I was unable to have cultures made, but I think there is no doubt but that the streptococcus erysipelatous entered the right nostril, invaded the frontal sinus, thence the orbit, as there is a direct opening from the sinus into the orbit in not a few skulls, and so on to the brain.

REPORT OF A CASE OF CHANCRE OF THE TONSIL.

BY HAL FOSTER, A.B., M.D.,
Laryngologist to St. Margaret's Hospital, Kansas City, Mo.

On December 22, 1896, Mr. M., a stout, well-developed young man of 24, was referred to me by Dr. George Hamel of this city. This young man was employed in a grain office in the Exchange Building. He belonged to a good family in Kansas. Thanksgiving day a number of young men came to the city to visit and dine with him. He took his friends out to see the College foot-ball game in the afternoon. On the way to the grounds they took several drinks. During the evening he seemed to think that something else must be done for their enjoyment. This thought uppermost in his mind they visited a house of unsavory reputation. A wine supper was ordered immediately; this young man, being unaccustomed to strong drink, was soon badly intoxicated. The girls of this institution kissed him in the mouth. He was soon sleeping, knowing absolutely nothing until the next morning. About ten days later he called on Dr. Hamel and requested the doctor to give him a gargle, saying that he had taken cold. This treatment did not relieve the patient. December 22 he was referred to me. After a careful examination I diagnosed chancre of the tonsil. He at first was inclined to doubt the diagnosis, until the chest, limbs and abdomen were found to be covered by characteristic syphilides. The hair was also falling out. After seeing these he gave the history as related above. He was at once placed on large doses of iodide of potash three times daily. Mercury by injection was used for ten days. In a few days the hair ceased falling out. Dr. George Hamel assisted in the treatment of this young man. He made rapid improvement.

The condition was explained to him; he was informed not to marry until he was well. He was also told not to kiss any one until he had recovered. It is interesting to note the source of contagion (kissing) in this case. The virus of syphilis finds a splendid ground to take seed in the tonsillar crypts. The local treatment used was antiseptic applications. The constitutional treatment of iodide of potash was advised for one year daily.

A CASE OF MASTOIDITIS COMPLICATING PURULENT OTITIS MEDIA CURED BY ENLARGING THE DRUM PERFORATION AND SYRINGING THE TYMPANIC CAVITY.*

BY W. SCHEPPEGRELL, A.M., M.D.,

Vice-President of the American Laryngological, Rhinological and Otological Society, Etc.,
New Orleans, La.

In March 14, 1895, Dr. McLawrence, of Monroe, La., called at my office and requested my advice in a case of acute mastoiditis. The history of the case was as follows: The patient, a railroad officer, 40 years of age, affected with rhinitis atrophica, had developed an acute purulent otitis media about two months ago. This case had progressed favorably under treatment; the discharge had almost disappeared and the perforation of the drum had become reduced to a small orifice. A week before the patient was called to my attention, however, he had been overtaken by a rainstorm, which immediately aggravated all the symptoms of the case. The discharge became more abundant and more purulent in character, and the temperature reached 103 degrees. An inflammatory swelling of the mastoid now developed, and to such an extent that it projected the auricle forward, which now assumed the appearance characteristic of aggravated cases of mastoiditis. The patient was depressed, dull and listless.

When I examined the case, I found the ear and the adjoining region in the condition already described. The mastoid was swollen, inflamed and painful on pressure; the temperature was 101 degrees, but had been much higher during the day.

This case presented all the usual symptoms demanding an immediate operation, and it was then decided that if the symptoms did not show marked improvement within twenty-four hours, the opening of the mastoid cells and the antrum would at once be undertaken. In order to give the patient the benefit of free drainage and disinfection of the tympanic cavity, I then made a V-shaped incision in the anterior posterior part of the drum, using the small perforation as the apex of the angle. A small tympanic canula was then passed through the orifice and the cavity gently but thoroughly syringed with a 10 per cent. solution of peroxide of hydrogen, this procedure being repeated the same evening. The following day the appearance of the patient had improved in a marked manner; the depression and dullness had disappeared, the temperature was 99.3 degrees, and the mastoid process, although still swollen, was not so painful to the touch. Under this treatment the condition of the patient rapidly improved, and five days later the case was again placed in Dr. McLawrence's hands, who afterwards reported to me the full recovery of the patient.

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*Read by title at the meeting of the Western O. O. L. & R. Ass'n, April, 1897, in St. Louis, Mo.

This case is reported not only on account of its clinical history, but also as demonstrating the fact that conservative methods may sometimes enable us to avoid more dangerous procedures in cases in which the indications are very pronounced. This conservatism, however, should not be carried to an extreme, and the case should be carefully watched so that prompt steps may at once be taken to more radical methods.

I will also give you a short clinical history of another case in which an operation on the mastoid was avoided, and the patient made a full recovery. This case, a patient of 47 years, was referred to me by Dr. John B. Elliott, of New Orleans. It was at first a case of purulent otitis media, the result of grippe, which afterwards developed inflammation of the mastoid cells. In this case there was light inflammatory swelling of the mastoid region, but not very pronounced. The post-auricular region was very tender to pressure, and the pain in the mastoid region was of such an excruciating character that it could be quieted only by means of large doses of morphine.

The indications in this case for opening the mastoid cells was the agonizing character of the pain which persisted for weeks. The patient, however, had suffered for several years from an affection of the heart, so that chloroform or other narcosis could be given only as an extreme resort. An expective treatment was, therefore, followed out by thorough disinfection of the tympanic cavities, counter-irritants, etc. The paroxysms of pain continued daily, and could be quieted only by opiates, and did not disappear for over two months. They then subsided and the patient has made a full recovery.

From the study of the clinical history of this case, I do not recommend that, on account of the ultimate result in this case, a similar treatment be advocated in other cases, unless the contra-indications to a radical operation are as pronounced. The thorough drainage of the antrum and cells in this case would have given prompt relief, and would have avoided the depressing effects of pain continuing for such a long period of time, and also the effects of narcotics, which the relief of the pain necessitated.

NEW INSTRUMENTS.

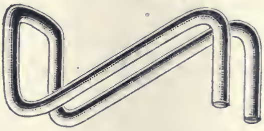
A MODIFICATION OF THORNER'S MASTOID RETRACTOR.*

BY E. C. ELLETT, M.D.

Ophthalmic and Aural Surgeon to St. Joseph's Hospital; Ophthalmic and Aural Surgeon to the Children's Home, Memphis, Tenn.

Quite recently I was called on to do a mastoid operation, without having a suitable retractor at hand. In trying to think of some means to devise one extemporaneously, it occurred to me to model a pair from wire, something after the pattern suggested by Thorner (*Annals* of *Ophthalmology* and *Otology*, October, 1895, and THE LARYNGOSCOPE, October, 1896). I found No. 13 copper wire well suited to the purpose, being sufficiently pliable to be twisted into the desired shape and sufficiently firm to hold its new shape under ordinary circumstances.

The result of my efforts with this wire and a pair of pliers is shown in the accompanying figure. The general plan is that followed by Thorner, and the method of using these retractors the same as that given for the use of his. That is, with one retractor caught in each lip of the wound the disengaged ends are held by the loops of a bandage or rubber ring which passes around the head.



These retractors possess all the advantages of Thorner's instruments, with the added beauty of cheapness and the possibility of their being made by the surgeon in a few moments to suit his particular case.

In the size I had made up, the long shaft is 32 m.m. in length, the short arms being 12 m.m. and the width 16 m.m. The wire is 2.5 m.m. in diameter. These dimensions can be varied according to the needs of any particular case, and, as Dr. Thorner suggests, the instruments may be used, when so modified, in many operations on the head, neck and extremities, as ligation of arteries, etc.

The size, whose dimensions I have given, were made up for me by Dutro & Hewitt, of this city. They are neatly finished and nickle-plated, and answer very well the purpose for which I intend them.

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*Read before the Medical Society of the State of Tennessee, April, 1897.

CORRESPONDENCE.

A CASE OF PYORRHŒA ALVEOLARIS FOLLOWING OPERATION UPON THE NASAL SEPTUM.

To the Editors of THE LARYNGOSCOPE:

DEAR SIRS—In the May number of THE LARYNGOSCOPE I was interested in reading an article on "The Relation of the Teeth to the Ear, Nose and Antrum," by Dr. O. F. Gambati.

The importance of this relationship was impressed upon me this past winter by the following case, which, on account of its rarity, will, I trust, warrant the liberty I take in reporting it:

Mr. N., aged 40 years, applied for treatment December 10, 1896, for the relief of a long-standing catarrh and nasal obstruction. Examination of the nose revealed a large spur on the right side of the septum, posteriorally, constituting a true exostosis. On the left side was found another spur, corresponding almost exactly to the one on the right side, except that it was longer in its antero-posterior diameter, involving a part of the cartilaginous septum.

In both cases these spurs were situated sufficiently above the level of the floor to make their removal with the saw comparatively easy.

I emphasize the point of their position in relation to the floor of the nose to show that there was no possibility of injuring this region during the operations.

I first removed the spur on the right side. Following the operation there was no reaction, except a rather severe neuralgia, affecting the teeth of the upper jaw, which disappeared from all the teeth by the second day, except from the first upper right incisor, at which time the patient noticed also that this tooth was loose.

I referred him to his dentist, who wrote me that he found nothing abnormal and could not account for the pain and looseness, unless it was dependent upon the operation. The pain continued until the fourth day following the operation, when, on examining the mouth, I noticed a swelling and redness at the base of this tooth, posteriorally, and on incision found a considerable amount of pus. After this the pain ceased, and in a few days the tooth was perfectly firm.

One month later I removed the spur from the left side. The same neuralgic pain followed the operation, becoming centralized in the first *left* upper incisor. Practically the same clinical history repeated itself—the loosening of the tooth and formation of pus, the evacuation of which stopped all symptoms—and five months after the operation the teeth appear perfectly normal.

The condition of the Pyorrhœa Alveolaris is usually due to the accumulation of tartar, resulting from neglect of the teeth. Sometimes it occurs after the death of the nerves, or its removal by the dentist. In either case it is usually a chronic condition.

In my patient, however, these conditions did not exist, and, moreever—the sudden appearance following directly upon the septul opertion—the involvement of the incisor on the same side of the median line corresponding to the side of the septum on which the spur was located and from which it was removed, make it self-evident that the condition was dependent upon the nasal operation, perhaps by the injury of the naso-palatine nerve as it crosses the septum on its way to the Ant. Palatine Foramen.

That a neuralgia affecting the teeth should follow this operation is not surprising or uncommon, but the complication of a true pyorrhœa is not so easy of explanation, and I have been unable to find any mention of such a condition following this operation.

F. A. Bottome, M.D.,
218 Lenox ave., New York City.

June 10, 1887.

Pyæmia and Sinus Thrombosis. Dr. Leutert (Halle). *Archives of Otology*, April, 1897.

The conclusions arrived at by the author are: 1. That pyæmia without sinus thrombosis has not as yet been shown to exist, and can be excluded in making the diagnosis. 2. The diversity of metastasis following sinus thrombosis in acute and chronic otitic suppurations is explained by the various kinds of thrombi. 3. In every case of empyema of the mastoid following an acute otorrhœa and where the temperature is 39° C or over, notwithstanding free drainage from the tympanium, we should operate and expose the sinus. 4. In acute cases, if the fever has not fallen on the third day or after a fall of temperature, high fever again sets in with or without chills, the sinus should be freely opened. 5. If the case is acute and high fever has existed for several days, or, in a chronic case, if high fever appears for a number of days, even if the mastoid involvement is not marked, the sinus should be opened at the first operation, meningitis must be excluded by lumbar puncture. 6. High temperature in small children has not the same diagnostic significance, but the possibility of a sinus thrombosis must be kept in mind. 7. Isolated thrombi at the jugular are usually caused indirectly by bacteria which have passed through the diseased sinus wall. M. D. L.

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P. O. Box 787, St. Louis.

EDITORIAL.

OUR ANNIVERSARY.

With the publication of the June issue of The Laryngoscope we have completed the first year of our existence in the journalistic world.

We can find no more appropriate occasion than now, as we stand on a firm rung of the ladder of success, of extending our thanks and gratitude to the many friends, who, by their cordial co-operation, have helped us to make The Laryngoscope a creditable institution.

In presenting The Laryngoscope to the profession, no effort has been spared to issue every number in accordance with the highest standard of medical journalism.

We have succeeded beyond expectations, both in the quantity and quality of the contributions of the many prominent specialists whose pen has been wielded in our interests.

The rapid increase of our subscription lists is positive proof of the popularity which The Laryngoscope has won.

With a *bona fide* subscription list of fifteen hundred names, including nearly every prominent nose, throat and ear specialist in America, one appreciates the necessity for such a publication as The Laryngoscope.

The endorsement of The Laryngoscope by three of the prominent Rhinological, Laryngological and Otological organizations speaks volumes.

We earnestly hope that our efforts to give the medical profession a strictly high class, interesting and original, special periodical will meet with continued success.

We wish to make The Laryngoscope absolutely indispensable to you, and ask your renewed co-operation and support.

The Editors.

THE SECTION OF LARYNGOLOGY, RHINOLOGY AND OTOLOGY OF THE SEMI-CENTENNIAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

The recent meeting of the American Medical Association, at Philadelphia, was a brilliant success from a social as well as from a scientific standpoint. The crowded assembly of physicians, who thronged the Academy of Music, gave strong evidence of the strength of the Association. The social functions to which the members were invited were so numerous that it was physically impossible to attend them all.

A special courtesy was shown the Association by the visit of the President of the United States, the Hon. William McKinley, and of the Hon. Daniel H. Hastings, Governor of Pennsylvania. Their addresses were listened to with much attention and greeted with enthusiastic applause.

The Section of Laryngology, Rhinology and Otology was well represented; in fact there was such an *embarras de richesse* that it was a credit to the Chairman, Dr. W. E. Casselberry, that the extensive program was completed in the allotted time; but it was only done by limiting the length of the discussions to five minutes and the papers to fifteen minutes. A large amount of interesting material was discussed before the Section, and some new points developed.

An interesting feature of the meeting of this Section was the presence of a number of the older representatives of this specialty—of men identified with the earlier developments of oto-laryngology—such as Drs. J. Solis-Cohen, Chas. Sajous, Lawrence Turnbull, Hermann Knapp, C. H. Burnett, and others.

It is to be hoped that the next meeting, which will be at Denver, Colo., will not fall below the standard set by this meeting.

Scheppegrell.

SOCIETY PROCEEDINGS.

THE NEW YORK ACADEMY OF MEDICINE.

SECTION ON LARYNGOLOGY AND RHINOLOGY.

Stated meeting, held on Wednesday evening, May 26, 1897. Joseph W. Gleitsmann, M.D., Chairman; T. Passmore Berens, M. D., Secretary.

A Case of Tubercular Inflammation of the Larynx. Reported by Dr. R. P. Lincoln:

The patient was a woman, 61 years of age; a Quakeress. Five or six years ago she had a pleurisy on the right side, of which there is no evidence at present, excepting a slight contraction of the corresponding side of the chest. Seven months ago she had an attack of grippe, which was followed by hoarseness, without cough. The hoarseness persisted, and it was on this account that she consulted Dr. Lincoln. An examination showed that the left vocal cord and the left side of the larynx, for a short distance beyond the cord, was covered with a mass of inflammatory tissue, the nature of which he was unable to make out. There was no swelling of the larynx, no soreness, no cough—in fact, no symptom was complained of excepting the hoarseness. There was no change in the appearances of the arytenoid cartilages, and the disease did not extend much beyond the vocal cords. On the corresponding side of the neck there were two or three slightly enlarged lymphatic glands. Repeated examinations of the secretions from the larynx gave negative results.

The inflammatory mass was removed by means of Krause's Currettes and sent to Dr. T. M. Prudden, who reported that the case was one of tubercular inflammation. The tubercle bacilli were present in moderate numbers, and in the central portion of the mass was a small area of cheesy degeneration.

Microscopical Report. By Dr. T. Mitchell Prudden, of Specimen from Dr. Lincoln's Case.

The fragments of tissue sent were all imbedded, even the smallest, and a series of sections was made from each, so that all portions of the specimens were examined.

There is a new formation of tissue in part diffuse, and infiltrating the normal tissues about, in large part in the form of small miliary-nodules. This new tissue is made up of small spheroidal cells, and larger polyhedral cells, with a scanty but distinct stroma between them. There are numerous giant cells scattered among the others, and in many parts, notably in the central portions of the new-formed nodules, there is a moderate amount of cheesy degeneration. New-formed blood vessels are few.

The original tissue of the region, consisting in part of mucous membrane, in part of deeper tissue, is normal, save for a moderate inflammatory small-celled infiltration.

The *Anatomical Diagnosis* is accordingly *Tuberculous Inflammation.*

For the purpose of controlling this diagnosis, a series of the sections were stained for *Tubercle Bacilli* which *Were Found To Be Present In Moderate Numbers.*

The examination did not reveal any structural evidence of carcinoma or other tumor growth.

Dr. Emil Mayer said: "From the history presented by Dr. Lincoln, I would say that the diagnosis would seem to be that of primary lupus of the larynx. This is borne out by the fact that there are evidences of tubercular tissue as well as a few bacilli. If it is lupus it is a very unusual and interesting case, for primary lupus almost always attacks the epiglottis.

"As regards prognosis, I may say that it is good as far as life is concerned, one case being under my observation for sixteen years and only now developing tuberculosis."

Dr. F. H. Bosworth said, he would like to ask the previous speaker whether he found any recorded cases where lupus had been shown to have become transformed into tuberculosis, or to have been a direct cause of death. He knew of none.

Dr. Mayer, in reply to Dr. Bosworth, said, that in the German literature, notably in the reports of Langie, Kafeman and Rubinstein, cases of lupus are mentioned which eventually developed tuberculosis. In one case (Rubenstein) there was a tubercular meningitis, and in his own case of lupus of the larynx there are now well-marked symptoms of pulmonary tuberculosis.

The Chairman, Dr. Gleitsmann, said, that tuberculosis sometimes developes some very unusual features in the larynx. At the meeting of the Section two months ago, and again last month, he presented a woman with a prolapse of the ventricle, which he removed. At that time he regarded the case as one of simple hypertrophy, although some of the members who saw it ventured the opinion that it would prove to be tubercular. The woman's chest had been repeatedly examined with negative results, and her temperature never rose above

99 F. In order to satisfy himself, however, regarding the true nature of the lesion, he gave the woman an injection of Koch's tuberculin, which caused a rise in temperature to 101.5, where it remained for a few days. There was also some pain in the region of the larynx and radiating towards the ear on the corresponding side. The sputum was not examined, as the patient had had no cough nor expectoration. An examination of the larynx, made a few days ago, revealed slight swelling of the wall of the ventricle.

A Case of Pemphigus of the Larynx. Reported by Dr. F. H. Bosworth.

The patient was a man, 68 years old, who for the past three years had suffered from patches in the mouth, pharynx and larynx, which were regarded as pemphigus lesions, that diagnosis having been made on the ground that he had cutaneous pemphigus. An examination of the larynx showed a number of lesions consisting, apparently, of a white fibrinous exudate, which, when peeled off, left the mucous membrane underneath practically intact. The gross appearance of the lesions was similar to that of a chronic fibrinous inflammation. Dr. Bosworth said he had never before seen a case of pemphigus of the upper air passages, and this case had puzzled him a good deal, as the lesion did not seem to make its appearance in the form of a bleb, but seems rather of an inflammatory character.

Dr. J. E. Newcomb said, that a case of pemphigus of the upper air passages had been presented to the Section a few months ago by Dr. Miller, of Brooklyn. The lesions involved the pharynx, epiglottis and larynx. The diagnosis, which was at first doubtful, was afterwards confirmed by the appearance of a cutaneous pemphigus.

Dr. Gleitsmann said, that several cases of pemphigus of the upper air passages had been reported by Loeri. A very interesting case of this character has also been reported by Dr. H. G. Klotz, of this city, in the *Journal of American Medical Sciences*, of Philadelphia. In that case, which was first seen by Dr. Gleitsmann, there were lesions in the mouth, which, when punctured, exuded a serous liquid and were quite painful. Similar lesions also appeared in the larynx. The case was referred to Drs. Fox and Klotz, who pronounced it one of pemphigus. Although there was no suspicion of syphilis, the man was put on specific remedies for a time without any resulting benefit. He gradually failed and ultimately died of collapse. The post-mortem showed pemphigus vesicles in the intestinal tract.

Dr. Bosworth said in his case there were no vesicles, and no subjective symptoms.

Papilloma of the Larynx.

Dr. Walter F. Chappell said, that about a year ago Dr. Delavan called the attention of the Section to the beneficial effect of applying absolute alcohol to papilloma of the larynx. The speaker said that about that time he saw a child, three years old, the upper portion of whose larynx was filled with papillomatous growths. Several of these were removed through the mouth, but as it was found impossible to give complete relief by this method, tracheotomy was performed and a tube put in. The child's mother, who was a very intelligent woman, was then furnished with a curved hard rubber dropper and instructed how to introduce alcohol into the larynx. The applications were continued faithfully, and during the past three months a number of the papillomata have been discharged through the tracheal tube. At the present time the child's larynx is almost entirely free from the growths.

Dr. W. K. Simpson said, it is not unusual to see papillomatous growths in the larynx disappear after the performance of tracheotomy, on account of the rest given to the larynx by the tracheal tube. The speaker said he was rather skeptical about the effect of alcohol on these growths, and also of the ability of an individual to apply it through a syringe or spray. He has tried the treatment in a number of cases without much success.

Dr. Chappell said, that in two other cases of recurrent papilloma of the larynx coming under his observation, wherein he had simply performed tracheotomy, the patients got well after wearing the tube for a year; during that time pieces of the growths were occasionally discharged through the tube, but they were not nearly such large pieces as in the case where the alcohol was applied.

Dr. Adolph Rupp said, that in one case of papilloma of the larynx recently coming under his observation, he used an alcohol spray with very good success. At the present time the larynx is quite free from the growths. A similar method of treatment has been advocated for such growths in the ear. In this locality the applications are quite painful, and the results less satisfactory.

Dr. C. G. Coakley said, that soon after hearing Dr. Delavan's paper on this subject he had instituted the treatment in a case of recurrent papilloma of the larynx, with almost immediate improvement. The growths soon shrank in size and were subsequently removed. Up to the present time there are no signs of a recurrence.

Palate Hook.

Dr. Gleitsmann exhibited an instrument devised by Dr. Lindt, of Berne, Switzerland, and described by the latter in a recent issue of the Archives of Laryngology. The instrument is introduced in a similar manner to the ordinary palate-hook, and by means of it the palate is drawn forcibly forward; this enables the operator to obtain a good view of the upper and rear-most portion of the rhino-pharynx without the aid of a mirror. Lindt, who has used the instrument for some time, states that he is also able to detect by this method an enlargement of the pharyngeal tonsil, if it is present, and, if necessary, remove remnants of that organ which have remained after curettement.

Dr. Gleitsmann said, that with this instrument he has been able to get a very good view of the rhino-pharynx, and in one case, where the patient was annoyed by the formation of dry crusts in this region, he found no difficulty in removing them with the forceps and then making proper applications with the cotton-carrier. If necessary, the actual cautery or other escharotic can also be used there.

Ozena in Its Relation to Diseases of the Accessory Sinuses.

Dr. T. J. Harris read a paper on this subject.

After referring to the fact that a discussion of the true nature of ozena had engaged the attention of the best rhinologists for many years without any settlement of this vexatious question, the author briefly reviewed the results of some of the more recent investigations. First among these he quoted the work of Ludwig Grünwald, whose inferences, after a very exhaustive study of the subject, were as follows:

1. An individual, pathological anatomical picture, attended by mal-odorous crust formation in wide noses, does not exist.
2. Any hereditary or anatomical disposition producing a condition called "ozena" does not exist.
3. In general, any peculiar inflammation of the nasal mucous membrane producing odor, with crusts and atrophy, is unproved.
4. The existence of a genuine atrophy is unproved.
5. That *all* cases of mal-odorous crust formation rest on sinus empyema is refuted.

On the contrary, it is proven:

1. That in a series of cases carefully studied, the secretion proceeded from foci of suppuration in various manners.
2. That the formation of crusts, as well as of odor, arises under different conditions.
3. That both conditions often occur together, but often each for itself, and as well with as without atrophy of the mucous membrane.

As a deduction of this, Grünwald concludes that the name ozæna has no correct usage, save in a symptomatic sense.

Dr. Harris said that when we come to consider Grünwald's arguments, we are compelled to admit that they are very reasonable in the main. He has certainly rebutted one of the chief objections to his theory, when he shows the result of the various autopsies on cases of ozena, which disclosed the presence of unhealthy sinuses. It will be observed, too, that he does not claim that disease of the sinuses is alone the cause, but what he designates focal disease; that is, areas of suppuration elsewhere than in the nose. The whole contention, in Dr. Harris' judgment, rests on whether such a disease as genuine atrophy ever exists. Most of us who have been observing our cases carefully must concede the important role of sinus disease in a large number of cases, and adenoid growths each one of us has recognized as a cause, but can we regard them the sole causes? Among the most important of recent investigations are those of Abel, who, in a careful bacteriological study of one hundred cases of ozena, found a characteristic bacillus, which he named the ozena-bacillus.

Dr. Harris said that of ten cases of ozena under his observation, five possess sinus disease; in one there are adenoid growths; one is due to syphilis and three did not show any involvement of the sinus. The six cases of focal disease are still under observation, so do not permit of any final report as regards the result of the operations. The speaker said that while this series is quite small, it is significant as being in line with Grünwald's results—70% showing involvement of the sinuses, according to his figures.

The following conclusions were drawn by Dr. Harris:

1. That there is no single, constant cause for ozena, and that ozena is rightly to be regarded only as a symptom.

2. That genuine atrophy—until recently unproved—from Loewenberg's studies, confirmed by Abel and Paulsen, in all probability does exist.

3. That focal disease, including especially disease of the accessory sinuses, while not the only cause, is a very important and common cause.

4. As a most practical conclusion for the rhinologist cach case of ozena, in addition to being treated with the proper constitutional and local measures, is to be thoroughly and repeatedly examined for evidence of sinus involvement.

Dr. Bosworth said he took issue with almost every point in Dr. Harris' admirable resume of this subject. Grünwald's conclusions form a striking illustration of where our enthusiasm will carry us when we are trying to prove a point with which we are prepossessed.

Personally, he did not think there was any more connection between sinus disease and atrophic rhinitis than there is between atrophic rhinitis and cirrhosis of the liver. In atrophic rhinitis the process that we have to deal with is a cirrhosis—an atrophy of the glandular structures, and one of the most important elements is that there is a destruction of the great physiological bodies, namely, the turbinated bodies, which make the nose the most intricate and important part of the breathing apparatus. The turbinated bodies, in health, pour out about sixteen ounces of water per day, and when they are performing their physiological function, it is absolutely impossible for crusts to form. When their function is abolished, everything that comes into the nose is robbed of its water, it dries up and forms crusts which, when they are retained, rot and stink. There is the full clinical history of atrophic rhinitis. It is due to the abolition of function of those great physiological bodies.

We are told that it is difficult to make the diagnosis of sinus disease. We can all recognize sinus disease, but when we come to the question of which sinus is involved, that may be very puzzling. In sinus disease we have a chronic abscess, discharging pus; that pus pours into the nasal cavity and will remain fluid if the nose is in a healthy condition, while if the nose is dry the puss will form into crusts.

Dr. Bosworth said he had never seen atrophic rhinitis in children, and in his opinion it never occurs at an early age. A careful review of the cases that have come under his observation showed that the process of atrophy extends over a period of from six to eight years. Crust formation usually began in his cases between the ages of 16 and 21; then came cirrhosis of the mucous membrane followed by contraction of the tissues with obliteration of the blood vessels. The secretions, even of the atrophic mucous membrane, do not stink. Nature does not secrete a stench. The cirrhotic membrane secretes healthy mucous, which, in the absence of the turbinated bodies, dries and forms crusts which adhere closely to the membrane and cannot be expelled, and like all animal matter, after two or three days they stink. Now, in such a case, where do the cocci come in? The speaker expressed the opinion that the cocci of Loewenberg, described many years ago, are simply the cocci of putrefaction. It is very probable that we cannot have atrophy without fetor, unless it be in the very early stage.

Dr. Bosworth said he recently saw his first and only case of sinus disease combined with atrophic rhinitis. In that case there was purulent disease of both ethmoidal sinuses together with atrophic rhinitis. Such a combination, he thought, must necessarily occur but rarely, as sinus disease belongs essentially to adult life, while atrophic rhinitis commences comparatively early and is worst between 30 and 40, subsequently undergoing some improvement.

Dr. Charles H. Knight said he wished to protest emphatically against the use of the term "ozena" as synonymous with "atrophy." The word ozena means a bad smell, and it should only be used in a symptomatic sense. While ozena does occur in atrophic rhinitis, it is by no means an invariable symptom of that affection. In some cases of atrophic rhinitis there is abundant crust formation with little or no fetor, and in other cases the crust formation is scanty while the fetor is very marked. This fact had suggested to his mind the possibility that the smell was due to some odorous property inherent in the glands or tissues and thus far undiscovered.

As regards the prognosis of atrophic rhinitis, Dr. Knight said he was less pessimistic than the reader of the paper. While it is true that there is scarcely any condition less amenable to treatment, still a fair proportion of cases are curable by judicious attention to hygiene and diet, combined with proper local treatment. As to the relationship between atrophic rhinitis and sinus disease it seems impossible to admit anything more than coincidence. The same obstructive hypertrophy that usually precedes the former *may* induce the latter.

Dr. Robert C. Myles said he differed with Dr. Bosworth regarding the frequency of atrophic rhinitis in early life, as it is not uncommon even in children four or five years old. A disease which has such clear and definite results must have a specific cause. The odor of atrophic rhinitis is no doubt due to the gases of disintegration; it is a peculiar odor, differing entirely from that due to syphilis or the presence of carious bone, and when once familiar with it a mere tyro can recognize it. Its persistency is another peculiarity, differing in that respect from the odor arising from the presence of carious bone in the antrum.

Dr. Myles said his own observations bear out the statement contained in Dr. Harris' paper that atrophic rhinitis is frequently associated with sinus disease. He recently reported such a case where, after operation on the antrum, the atrophic rhinitis was immediately relieved of the odor, incrustations in the fossa of the same side and the patient was entirely well seven months afterwards, when she was lost sight of.

Dr. Beaman Douglass expressed the opinion that atrophic rhinitis could not primarily be dependent upon sinus disease, as the latter is in almost every instance secondary to nasal trouble. As regards the presence of a specific bacilli in these cases, the speaker said he did not think it was necessary to invoke the aid of such a causative factor. Inflammation, as we know, is not always explained by the presence of a bacillus; traumatism may be a cause of inflammation or chemical irritation may be equally potent.

Dr. Douglass said he had come to regard atrophic rhinitis as simply one of the results of inflammation rather than as a specific inflammation by itself. There is no more reason to believe that it is due to the presence of a special bacillus than there is that cirrhosis of the liver or locomotor ataxia or any other fibroid disease is due to a special bacillus. It is simply the result of a preliminary hypertrophic condition, the same as we see in other organs of the body. It is a bad result of an ordinary hypertrophic inflammation, occurring where there is an unhealthy environment, a debilitated condition from disease or an unfavorable heredity.

Dr. Adolph Rupp mentioned the case of a woman, 32 years old, whom he has had under his observation during the past fifteen years. In that time he has seen the turbinated bodies atrophy. In this case there is disease of the frontal sinus on both sides. The odor, which was very marked, has become much less noticeable under the use of oily sprays.

Dr. Rupp said he had never observed among children a single case where the clinical and pathological appearances were similar to those met with in the adult. He asked Dr. Myles what the clinical appearance of such a case, in childhood, is?

Dr. Myles replied that the turbinated bodies are shrivelled; there is crusting and an odor.

Dr. T. P. Berens said he did not believe there was any one cause for atrophic rhinitis. He had observed cases where the atrophy was due to adenoids and progressed until the latter were removed. In one such case, which has been under his observation for eighteen months, there was constantly increasing atrophy, with scab formation and odor, and with a steady diminution in the size of the turbinated bodies; six months ago he found adenoid growths in the vault of the pharynx, and upon the removal of these the scabs and odor disappeared and atrophy remained at a standstill. In some cases the atrophy is probably due to a retention of the secretions, with consequent disease of the glands and mucous membrane. There are also cases of frontal disease which produce atrophy in the anterior chamber of the nose, the posterior portion remaining comparatively free.

In a certain class of these cases sinus trouble certainly seems to play an important role as a causative factor.

Cirrhosis of the nasal mucous membrane, Dr. Berens said, is apparently not a disease, *per se*, because it occurs in comparatively young people. In other organs of the body this condition is rare below the age of twenty, while in the nose, he has seen it between the ages of twelve and fourteen years; he has never seen true atrophy in children below that age. The condition, it seemed to him, was due to some irritant applied directly to the mucous membranes.

Dr. Gleitsmann said the youngest age at which he had observed atrophic rhinitis was six years. The atrophy was very pronounced, there was an immense amount of crust formation and a persistent odor. The patient was under his treatment for about six years. At the end of that period there was no further odor, and the turbinated bodies, which had been completely shrivelled, were fully restored to their normal size.

Dr. Harris, in closing the discussion, said that until he had become conversant with Grünwald's work in this field of rhinology, he had never appreciated the possibility of associating sinus trouble with atrophic rhinitis; since then he had become convinced that sinus or other focal disease must be regarded as one of the causes of ozena. If the sinus disease is secondary to the nasal condition, why should we not be able to relieve the former by curing the latter?

Dr. Harris said that since he had given this subject more careful attention, he had been surprised to find that in many of these cases the crust formation is located high up in the middle turbinated region, about the hiatus semilunaris. This fact would indicate that the origin of the pus which forms the crusts is high up. In conclusion, the speaker mentioned the importance of a thorough search for evidence of sinus trouble in every case of atrophic rhinitis coming under observation.

A Case of Angioma of the Tongue. Presented by Dr. J. C. Sharp.

The patient was a girl 8 years old, with a tumor about the size of a hazel-nut on the side of the tongue. The growth had first made its appearance when the child was 1 year old, after a fall down stairs, resulting in an injury to the tongue. About three months ago the tumor began to increase in size and it is still growing. Dr. Sharp pronounced it an angioma.

THIRD ANNUAL MEETING OF THE AMERICAN LARYNGOLOGICAL, RHINOLOGICAL AND OTOLOGICAL SOCIETY.

Held in Washington, D. C., May 1 and 3, 1897.

FRANCK HYATT, M.D., OF WASHINGTON, D. C., PRESIDENT.

FIRST DAY—SATURDAY, MAY 1st.

New Curettes—A New Cauterizing Instrument.

Dr. Lewis A. Coffin, of New York, presented two curettes, one of which he had found useful in removing the last fragments of adenoid growths. It could be used with the finger as a guide, or with the aid of a mirror and a palate retractor. The other curette was used around the posterior portion of the pharynx, and owing to its bent shank, it was easily introduced into locations otherwise difficult of access.

Dr. Coffin said that he had met with excessive hemorrhage in a case in which he had cauterized a posterior hypertrophy. The boy was not a "bleeder," because he had previously operated upon his tonsils without any such trouble. The hemorrhage had been checked at first by tamponing, but it had recurred nearly a week later with great severity. After much trouble it had been controlled, but after a week or ten days, had again recurred, and the boy had been left almost exsanguinated. Owing to this unpleasant experience he had been led to devise the instrument presented. It consists of an ordinary hypodermic syringe barrel with a long, curved beak through which monochlor-acetic acid can be applied directly to the part; the use of the monochlor-acetic acid left a peculiar slough, which remained *in situ* until cicatrization had taken place. He had not observed that the acid injured the instrument if ordinary care was used.

Dr. William Scheppegrell, of New Orleans, said that he used an instrument arranged something like the Gottstein curette, except that it is heart-shaped, and the depression fits into the septum. Such an instrument, fitting as it did on both sides of the septum, allowed the work to be done very rapidly, as well as effectively.

Dr. Wendell C. Phillips, of New York, said that he had yet to see one of the modified Gottstein curettes that did not do most of the cutting near the tip. If it were used several times from above downwards, it would make only several small "ditches." Unless, therefore, the instrument was made so as to prevent this cutting at the tip, it should be condemned. Dr. Coffin's instrument seemed to him very valuable, particularly when used with the mirror.

Dr. H. Holbrook Curtis, of New York, said that he always completed his adenoid operations by introducing a large snare through the inferior meatus, and bringing the snare up as far as possible. He had been surprised at the size of the mass drawn out in this way, and his results had been much better since adopting this plan.

Dr. Coffin said that in chronic catarrhal conditions of the nasopharynx a light curetting of the surface before the application of the various solutions would be found very beneficial.

Dr. Robert C. Myles, of New York, said that his objection to the heart-shaped curette was that on several occasions he had known the child to twist the head to one side and cause the sharp process of the instrument to dig into the upper wall of the Eustachian tube. It was almost impossible to keep the curette in the middle line of a child's head. In his work, a small pair of post-nasal forceps, with large fenestra had served him well in removing growths under ether.

Dr. Scheppegrell said that he had seen more complications follow the use of the forceps than any other method. For instance, otitis media had followed the use of the forceps in expert hands.

Dr. William H. Daly, of Pittsburg, said that the instruments just presented would probably be still more convenient if made with lighter handles. In removing adenoids with forceps it would be found desirable, in the case of sessile adenoids, not to attempt to tear these away, but simply to crush them. They would be absorbed within three or four weeks and leave the mucous membrane in a healthy condition.

President's Address.

Dr. Franck Hyatt, of Washington, D. C., delivered the address. He touched upon some of the more noteworthy achievements in the past year in the branches of medicine coming within the scope of the society. In the recent Congress, he said, seventy-five per cent. of the papers had been devoted to Rhinology. An especially interesting contribution was one on ozena, in which it was claimed that a large percentage could be cured by the application of the electric current—20 milliampères for 20 minutes at a time. One contribution emphasized the value of the electric current (12 to 27 m.a.) continued from 10 to 27 minutes for the removal of small spurs. In the Vienna Congress the prevailing sentiment was opposed to the radical surgical procedures that had been advised in Germany, especially for the treatment of antrum disease. It was also agreed that too much stress had been laid upon the teeth as a cause of such disease.

The accessory cavities were discussed also before the British Society of Laryngology, Otology and Rhinology. Here it was stated emphatically that operations in frontal empyema should not be considered successful unless drainage was provided through the nose. The ethmoid cells were treated of in three scientific papers. Mackenzie had brought forward proof of the incorrectness of the statement that suppurative inflammation of the ethmoid has a tendency towards necrosis. He also said that there was no special tendency in these cavities to myxomatous conditions. A number of authors had called attention to the lingual tonsil during the past year, and had spoken of the significance of pathological lesions here. Lennox Browne, in 1547 cases of nose and throat disease, had found the lingual tonsil varicose in 438 of the cases, and in 37 per cent. of these there was also hypertrophy of the gland. Macintyre had made a report bearing upon the value of the X-rays in investigating diseased conditions of the nose and throat.

Otology had also shown commendable activity in the past year. The importance of asepsis in connection with the ear had been strongly urged, and cerebellar abscess had been made the subject of many important contributions. In mastoid operations, it had been found that the best results followed frequent dressings.

Chronic Non-Suppurative Otitis Media.

Dr. S. Mac Cuen Smith, of Philadelphia, said that the nasopharynx must necessarily be considered in this connection because of its important etiological relations to the subject under consideration. For clinical purposes it was sufficient to regard the several varieties as different stages of one disorder, beginning with a simple catarrh, and ending with advanced trophic changes, involving the internal ear, and attended by deafness and tinnitus. The author did not believe that the general health had any material influence on the development of the disease under consideration, except in the case of syphilis. The true underlying condition was a catarrh of the nasopharynx. There would be found more or less obstruction of the Eustachian tube, marked retraction of the membrana tympani, with thickening, misplacement of the ossicles, and the whole bound down by firm adhesions to the promontory. If, in addition, there was impaction or bony union of the stapes to the foramen ovale, it was not to be wondered at that efforts at relief met with comparatively little success. Not only must the catarrhal condition of the nose and throat be controlled, but free nasal respiration must be established. It seemed foolish to hope for relief in cases of ankylosis and adhesions without first securing liberation of the membrana tympani and ossicles.

The treatment should be an incision into the membrana tympani along the entire length of the handle of the malleus. Through this a small knife should be introduced, and the adhesions divided. With a small hook, efforts should be made to break up the adhesions. A few drops of sterilized albolene should then be instilled into the tympanic cavity. The canal should be filled with iodoform gauze, care being taken that it does not impinge on the membrana tympani. The gauze should be removed on the third or fourth day. Massage of the ossicles at intervals of three or four days was next in order. In the experience of the writer additional injections of oil could be made into the drum-head. From ten to twenty hypodermic injections of the hydrochlorate of pilocarpin, at intervals of two or three days, might be given with advantage. Phosphorus and strychnine should be administered internally. Of course, the naso-pharynx should have received proper treatment before beginning this line of treatment. As a result of a large number of experimental observations during the last few years, on the cure of this disease, he had come to the following conclusions: (1) That the best result was obtained from the treatment just outlined; (2) that this operative procedure was practically without risk, and, hence, should be adopted before a more formidable one; (3) the majority of cases could be relieved of tinnitus and vertigo if there was no labyrinthian disease; (4) that chronic cases with internal ear involvement did not offer hope of improvement in hearing, but might be relieved frequently of the tinnitus and vertigo; and (5) that excision of any part of the conducting apparatus was only justifiable for the relief of tinnitus and vertigo when other measures have failed.

Dr. Sargent F. Snow, of Syracuse, said that the long-standing cases of ear trouble, with a history of deafness for ten or fifteen years, were usually looked upon with indifference. He had done this himself up to the last three years. The prospect of relief depended not so much on the amount of deafness as upon the amount of retraction of the drum and dislocation of the ossicles. The all-important point was to thoroughly remove from the nasal passages all growths causing obstruction. In the very chronic cases good results must not be looked for if such treatment were speedily followed by operative measures, but if the latter were deferred until nature had time to restore the natural condition of the mucous membrane, the outlook would be far better. In his opinion, the best treatment consisted in repeated and thorough stimulation of the parts. He used camphor and iodine vapor, introduced through the Eustachian catheter under a good air pressure. This application seemed to tone up the relaxed mucous membrane of the middle ear, and relieve the catarrhal condition of the parts. A case was cited of a man who had come under his care in 1894. This man could not hear a loud whisper with the left ear, but could hear in the right ear at a distance of five inches. The nasal passages were cleared out, and since last October he had been treated with the camphor and iodine vapor, twice a week. In the left ear he could now hear at a distance of forty-eight inches, and in the other at a distance of eight feet. The speaker said that the great improvement observed in this case had been duplicated several times in his experience. Many practitioners had failed to introduce the vapor fairly into the middle ear cavity. It could not be done in every instance by a light air pressure, and hence he used the air from the reservoir, sometimes under a pressure of eighteen or twenty pounds.

Dr. Scheppegrell, referring to the use of the pneumatic speculum, said that in the majority of the cases so treated in which there were some ankylosis and adhesions, the exhaustion and compression affected chiefly the more yielding parts—the parts which it was not desired to treat; hence, the use of this apparatus would seem to be very limited. Regarding the use of the Politzer plug, he said that the retention of this vacuum for a number of hours would be apt to cause at the same time a congestion, principally of the drum, but also of the surrounding parts.

Dr. E. E. Holt, of Portland, Me., said that in the early days of his practice it had been his custom to make an opening in the membrane and even introduce a stilette. At another time, the practice was to cut the tensor tympani muscle. Each case of aural disease should be treated individually. The history would often lead one at first to give a very bad prognosis. He had used the plugs for a long time, and thought he had derived some benefit from them. The naso-pharynx should receive careful attention. In the treatment of this disease it was very important to keep the patient busy.

Dr. Ewing W. Day, of Pittsburg, said that there was a certain class of cases in which no improvement followed a careful treatment of the nose and throat, and of even division of the adhesions in the ear. He cited a case of extreme deafness in which he had removed the ossicles entirely. As a result, the patient was able to hear ordinary conversation at a distance of three feet. He had probably operated upon a dozen cases in this way during the past year, and fully eight had been decidedly improved, while the remaining four were neither better nor worse. The vertigo following the operation was sometimes very distressing, persisting in these cases for a week or more.

Dr. R. C. Myles asked how many of these cases had been operated upon over a year, and if Dr. Day had succeeded in finding the foot-plate of the stapes?

Dr. Day replied that the last case had been operated upon in January, 1897. He had a collection of the ossicles, including the foot-plate. The improvement would be greater at first than afterward, but it had remained fairly constant after the third week. Some of the cases had been under observation for about two years.

Dr. H. H. Curtis spoke of the use of the olivary bougie, with a mild galvanic current passed through the Eustachian tube.

Dr. J. E. Nichols said that in cases in which the tube was at all closed up, the Valsalva method of insufflation was injurious, because the mucous membrane, in a state of turgidity, was pressed up against the Eustachian orifices, and thus prevented the proper entrance of the air. It was also injurious, because if the difficulty were unilateral, the normal ear would be deleteriously affected by the hypertension. In cases of sclerosis of the membrane, the pneumatic speculum could be used, but it was injurious in cases of atrophy. The pressure applied from the outside causes an extra yielding of the already thin surface, and no effect on the ankylosed ossicles. Moreover, the tinnitus was increased.

Dr. Sprague said that he had been with Dr. Jack in his first stapes operations, and he had certainly obtained many excellent results. Some of these stapes operations had been followed by no result whatever, but in other cases there had been an infinite amount of harm. He had known persons to be afflicted with vertigo and other distressing symptoms for many months after the removal of the stapes.

Dr. Scheppegrell said that he had used electrolysis in cases of stenosis of the Eustachian tube, and he could assure any one that it was exceedingly difficult to pass a metallic instrument into the Eustachian tube without perforating the tube. With the dispersing electrode placed on the neck, a current of five milliamperes would cause vertigo in almost all cases. The method was not only of little value, but was decidedly harmful. In the application of a current of even five milliamperes through a small probe, the current would be so concentrated as to cause an ulcer in most instances, and if so, this would result in stenosis. Where there was already an obliteration of the canal, it was a different matter, yet even here the results were nothing like as good as in electrolysis of the urethra, where the urine keeps the calibre open.

Dr. W. H. Daly thought it was much better for the practitioner to test the strength of the current upon his own tongue than to trust to any milliampere meter.

Dr. Smith, in closing, said that of course the operative measures should not be undertaken until other measures had failed. The object of massage was to produce exhaustion and compression, and the exhaustion should occur before the compression, for if this order were reversed vertigo would result.

Laryngectomy—Case and Specimen.

Dr. Charles W. Richardson, of Washington, D. C., reported a case of laryngectomy for malignant disease of the larynx. In April, 1896, he had been asked to see a well nourished man with a good family history, and with no evidence of syphilitic taint. A red growth, about one centimeter, sprung from the left wall of the larynx, just above the cord. Examination of the growth, after removal, showed it to be an epithelioma. At the time of the operation, last December, his general condition was bad, and the cancerous cachexia was evident. He suffered from paroxysms of severe dyspnœa, and could sleep and eat but little. There was no pain in the laryngeal region, nor any of a reflected character at any time. There was no infiltration or involvement of neighboring glands. Both cords were destroyed, and their places occupied by nodular new growths of a whitish appearance. On December 12, 1896, a preliminary, low tracheotomy had been done. On December 19, laryngectomy was performed, using Gerster's tampon canula. During the operation some trouble was experienced from profuse hemorrhage, owing to the accidental division of a deep vein. The upper end of the œsophagus was stitched subcutaneously to the upper end of the transverse wound so as to close off completely the pharyngeal cavity. The epiglottis was left *in situ*. During the first day after the operation the patient seemed much more comfortable, and the temperature was 99 degrees F. On the evening of the second day, the patient suddenly became much worse, and he died shortly afterward from acute œdema. Examination of the larynx after the operation showed that the extent of the growth was far greater than had been supposed, as it filled the whole interior of the larynx, and even extended into the trachea. It seemed to him better surgery to unite the flaps and close the wound instead of the usual plan of using gauze packing.

AFTERNOON SESSION.

Papilloma of the Larynx Recurring as an Epithelioma—Report of a Case.

Dr. M. R. Ward, of Pittsburg, read a paper with this title. (See page 24, July issue of THE LARYNGOSCOPE.)

Dr. James C. Kerr, of Washington, D. C., reported a case of laryngectomy for malignant disease. Tracheotomy was performed about one month before the laryngectomy became necessary. The points which decided them in favor of the operation in this case were: (1) The strong probability of the growth being carcinoma; (2) the growth was distinctly confined to one side of the larynx; (3) there was no involvement of the lymphatic glands or of the tissues outside of the larynx. The patient was a woman, fifty-four years of age, who had long been in poor health, and whose kidneys were especially inactive. The daily quantity of urea did not rise above 180 grains, and was often much less. In addition to this, the heart action and digestion were poor, and she was quite neurotic. It was hoped that a partial laryngectomy would be sufficient. The operation itself presented no special difficulties up to the time of splitting the cricoid cartilage behind. On opening the larynx it was found that the growth completely blocked the larynx, but was quite adherent on the right side. The patient's strength had been fortified prior to the operation by the administration of atropin and saline enemata, and at the time of the operation the head was placed lower than the body. At the close of the operation the patient's general condition was exceedingly satisfactory. Instead of using the balloon tampon canula of Trendelenburg, a piece of compressed sponge was substituted for the balloon, and as soon as it became moistened with the secretions the sponge swelled and tightly closed the opening. This device acted admirably. The patient did very well at first, and although there was no evidence of septic pneumonia or other complication directly connected with the operation, her strength gradually failed, and she succumbed at the end of the first week.

Dr. Phillips said that he had come to believe that in the majority of cases a growth once benign was always benign, and one once malignant was always malignant. In a case of his own, almost everything pointed to a benign growth—a papilloma—yet microscopical examination showed it to be undoubtedly an epithelioma. One-half of the larynx was removed by operation, and at this time there was no evidence of secondary involvement. The operation was done last November, and up to the present time there had been no evidence of recurrence. These cases seemed to die invariably after operation. He did not believe that, on an average, life was prolonged by such operations. Some observers advised early tracheotomy in these cases, and it would be noted that the symptoms of the disease would suddenly abate after a preliminary tracheotomy. If any operative procedure were to be undertaken it should be the radical one, for partial removals seemed only to hasten the progress of the disease. For this reason, he believed that thyrotomy was to be condemned in every instance.

Dr. Myles said that about one year ago a patient had come under his observation with a malignant growth. Two specimens had been examined microscopically, but with no very definite result. He then made a deep section with the Heryng double excisor curette, and obtained a specimen for examination, at the same time insisting that the patient should be operated upon at once after such interference, if the growth proved to be malignant. The microscopist reported that the growth was undoubtedly malignant.

Looking over the literature of the subject, he had found that it was a most dangerous operation, the patient dying frequently, either from sceptic pneumonia or from a peculiar condition of asthenia. The patient, who was very anxious to have his larynx removed, submitted to an operation by Cohen's method, which was performed by Dr. J. A. Bodine, of New York. The larynx was completely removed, and all connection with the rhino-pharynx cut off. The healing process was kindly, but there was much trouble from drying of the mucus in the trachea. It was now about a year since the operation; the man had gained twenty pounds or more in weight, and his voice was fairly distinct. This was a good result, but, in his opinion, it was an exceedingly exceptional one. There was, at the present time, considerable mystery connected with the deaths of some of these patients, who apparently do well for about a week and then suddenly die.

Dr. John A. Thompson said that he believed that laryngectomy was now passing through the same period that ovariotomy had passed through in the early days. We should consider the *technique* of the operation, and the methods to be pursued to avoid these sudden deaths after operation. When the patient became cyanotic before coming from under the influence of the chloroform, he believed, it was due to the packing in the trachea. In operating for carcinoma he believed it was a mistake to do a preliminary tracheotomy. It was better to anæsthetize the patient through the natural channels until all the preliminary dissection had been done. In this way there was absolutely no danger of blood or septic matter getting into the lung.

Dr. W. H. Daly said that for some years past he had believed that the clinical history of the case would help us more than the microscopical examination. For the last few years he had allowed these cases to go about with no other operation than the preliminary tracheotomy, believing that they should be allowed to die peacefully without subjecting them to this disgusting and revolting operation.

Dr. Arthur G. Root, of Albany, thought a preliminary tracheotomy was useful as it put the larynx at rest. He was firmly convinced that a larynx, the seat of a malignant growth, should be left alone. Regarding the statement about intra-tracheal pressure bringing on syncope, he said that this did not tally with his own experience with intubation. Where he had seen syncope follow intubation, it had not seemed to him to result from the pressure of the tube, but rather from the pushing down of membrane before the tube, or from the fact that the tube was so small that sufficient air was not admitted.

Dr. Ward said that the laryngologist should not undertake a capital operation like laryngectomy, although it was not an especially difficult operation in the hands of the general surgeon. His case had been presented simply to increase the statistics. He was of the opinion that transformation of originally benign growths might take place. He thought it was pretty well settled that carcinoma was a secondary growth of proliferating tissue; hence, in a place like the larynx, which was subject to so much irritation, it was not improbable that a benign growth might undergo malignant transformation.

Dr. Phillips said that all seemed agreed as to the advisability of the preliminary tracheotomy. Chloroform was the anæsthetic which should be chosen on account of the diminished danger of irritating the lungs. Much depended in these operative cases upon the after-treatment. He favored having the room kept at 75° F., and the air quite moist.

Dr. Scheppegrell referred to the treatment by metallic electrolysis. About six months ago he had tried the method on an epithelioma of the larynx and base of the tongue, with the idea of relieving the pain. It was applied to the growth at the base of the tongue, and to his surprise the three nodules almost entirely disappeared within three weeks. Further treatment was abruptly stopped by an intercurrent disease. The advantage of this treatment was that the zinc salt was carried by the current deeply into the tissue. In the future, he would be inclined to advise first a tracheotomy, and then metallic electrolysis.

[TO BE CONTINUED.[

WESTERN OPHTHALMOLOGICAL, OTOLOGICAL, LARYNGOLOGICAL AND RHINOLOGICAL ASSOCIATION.

Second annual meeting, held at St. Louis, April 8th and 9th, 1897. Adolph Alt, M.D., President; Hal. Foster, M.D., Secretary.

Adenoid Vegetation.

Dr. Ellet Orrin Sisson read a paper on "Adenoid Vegetation." See page 333, June issue of The Laryngoscope.

Dr. A. E. Bulson, Jr., Fort Wayne, Ind., stated that Dr. Sisson's paper was of great interest to him, as adenoids were so frequently met with. He thought that there was no doubt but that adenoids and enlarged tonsils had a marked deteriorating effect upon the development of children's minds. He had noticed, among the children at the State Institution for Feeble-Minded Youths, at Fort Wayne, Ind., a surprising number of cases of enlarged tonsils and adenoids. The matron and nurses of the institution reported that after operation for the removal of these abnormalities the children seemed better and brighter. One case, in particular, a boy who was practically an idiot, was markedly changed for the better in character; he became docile and interested himself in various pursuits about the farm. He also called attention to the effect of adenoids upon the hearing. The method of removal, in the doctor's opinion, was unimportant; as to whether aseptic methods should be employed or not in the examination, he thought, was somewhat farcical, as the cavity was generally filled with muco-purulent secretion. Ordinary cleanliness was all that was required.

Dr. A. C. Corr thought that the proper removal of adenoids certainly tended to longevity and happiness of the human race.

Dr. K. K. Wheelock, Fort Wayne, Ind., called attention to the prevalence of follicular conjunctivitis in conjunction with adenoiditis.

Dr. M. A. Goldstein, St. Louis, believed in thorough asepsis in adenoid operation. After the cutting or curetting, he followed the German plan of smoothing down the ragged parts, by means of friction with the finger swarthed in iodoform or bichloride gauze.

Dr. Sisson, in closing the discussion, again dwelt upon the benefits derived from, and the necessity of, asepsis in operations in the nasal cavities.

Report of a Case of Double Mastoid Disease.

Dr. J. O. Stillson, Indianapolis, read a paper on "Report of a Case of Double Mastoid Disease." Will be published in August issue of The Laryngoscope.

Dr. Goldstein agreed with the author as to the necessity of rapidly cutting short the condition of affairs when the mastoiditis demanded operative relief. He spoke of the use of a little electric lamp, covered with a tight-fitting rubber tube, the distal end of which tube is placed over the mastoid area, which is supposed to be involved. A large vulcanite funnel, with an aural speculum secured in its apex, is placed in the external auditory neatus, and the room darkened. Upon illumination with the lamp, if the mastoid cells are pervious, the membrana tympana will be translucent; if serum, pus or granulation tissue is contained within the cells, no light is transmitted, the drum appearing dark. By this method he had successfully determined the presence of pus and granulation tissue in several cases of mastoiditis of long standing.

[TO BE CONTINUED.]

BOOK REVIEW.

Malignant Disease of the Larynx and its Radical Treatment.

(By Dr. Johann Sendziak, of Warsaw, Poland.)

The author has received deserving recognition for his excellent treatise (in german), by being awarded a prize from the medical society of Toulouse. His writing demonstrates that he has thoroughly searched the literature upon this distressing disease, and he gives to his reader not only his personal experience but that of other eminent authorities as well.

Under the heading of malignant disease of the larynx he describes two forms of growth; i.e., carcinoma and sarcoma.

He discourses at length as to the history, actiology, pathological anatomy, symptomatology, duration, diagnosis, prognosis and therapy.

The author does not believe in the "irritation theory" as a causitive factor. Neither does he believe that the infectious nature of the disease has as yet been emphatically established. He reports a case, however, in which a brother of an individual suffering from ulcerating carcinoma of the upper larynx, showed a malignant process of the base of the tongue and epiglottis, shortly after using some instrument to touch his own pharynx, which his diseased brother was in the habit of employing.

The microscope is not always a criterion in arriving at a correct diagnosis. Many errors have been made by relying solely upon this otherwise valuable adjunct.

The differential diagnosis of malignant disease is carefully considered. The time is passed, says the author, when the patient with malignant disease of the larynx is merely permitted to vegetate. He believes that with our present knowledge a better prognosis can be offered.

Various methods of operating for the removal of the growth are instructingly described in the chapter on therapy, and numerous cases are cited in tabulated form. These tables describe the complete record of each case, with the method employed, and certainly enhance the value of this serviceable publication. A few illustrations demonstrate some forms of cannulæ employed in the laryngectomies.

The paragraph topics make this book a ready reference number, and permits the reader to find individual subjects at his pleasure. When we consider that the author has consulted 677 references in offering this monograph of 224 pages, we must naturally conclude that his work is indeed exhaustive. Unfortunately, the book is bound in paper. It is well printed, and is the product of J. T. Bergmann, of Wiesbaden. LEDERMAN.

THE

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ORIGINAL COMMUNICATIONS.

THE SEQUELLA OF GRIPPE INVOLVING THE ACCESSORY CAVITIES OF THE NOSE.*

BY LEWIS C. CLINE, M.D., INDIANAPOLIS.

Professor of Diseases of the Throat and Nose in the Medical College of Indiana.

Influenza, or La Grippe, is now well understood as meaning a specific, self-limited, epidemic fever, characterized by a catarrhal inflammation of the mucous membrane of the air passages and their accessory cavities, and frequently the digestive and other mucous tracts of the body. The nervous symptoms are usually pronounced and manifested by extreme muscular and mental debility. Many papers have been written calling attention to the far-reaching influence of the disease and its power to invade and disturb the functions of the various organs of the body and lead to chronic and disabling sequella.

Hulmann, in an exhaustive study of influenza, says that it is transmitted directly from one person to another. He says it may also be carried by fomites. Stewart, in an address before the British Medical Association, reviewed at length the subject of influenza and its various manifestations. He claims Pfeifer's bacilli are the active cause, acting indirectly by their toxins.

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*Read before the Marion County Medical Society, February 16, 1897.

The period of incubation varies from a few hours to several days, depending on the state of health and the resisting power of the individual infected. One attack does not confer immunity against future ones; in fact, relapse and re-infection have been frequently observed during an epidemic. In cases that have resulted fatally, it has almost invariably been found that death was due to some complication that led to secondary structural lesions and not to the Grippe itself.

The first manifestation of La Grippe is a feeling of general malaise and a swollen hyperæmic condition of the respiratory mucous membrane. In a large per cent. it is first felt in the naso-pharynx, then extending into the larynx and bronchial tubes.

These membranes are constantly giving off a viscid, muco-purulent discharge, causing more or less cough and clearing to expel it. The inflammation is usually limited to the upper air tracts, but it may extend into the finer bronchi. In some cases the gastro-intestinal tract is involved from the start.

There is always a feeling of "stuffiness," or cold in the head, with frequent paroxysms of sneezing and a profuse discharge. The eyes become injected and watery. The mucous membrane of the mouth presents a red or congested appearance and the throat becomes sore.

In the milder forms the disease confines itself to the upper air passages and does not extend below the larynx. When the disease extends into the lungs it assumes a more serious aspect. Cough is rarely absent from the first and is always worse at night.

Without entering further into the discussion of the many phases of this disease, I wish to call your special attention to the malady as it involves the accessory cavities of the nose. I think this extension explains some of the severe neuralgias and nervous symptoms that are so often met with during these attacks.

It is generally believed by those who have not given the subject detailed study that nearly all the trouble that emanates from the nose is due to the engorged or hyperæmic condition of the turbinate bodies, thus giving rise to the various reflexes and neuralgias that occur about the head and face. An extensive observation of these cases has convinced me that the turbinate bodies are not responsible for all these troubles, but that the accessory cavities are the seat of inflammatory invasion, causing much of the trouble attributed to faulty turbinates.

When we study the accessory cavities and their relation to the nose, we find that they possess all the requirements for the growth and rapid reproduction of bacteria. Light is excluded; they possess the proper degree of heat and moisture; they are removed from all disturbing influences; and are richly supplied with absorbing vessels. With all these favorable conditions, it is not strange that when they become invaded with the bacilli of La Grippe, the patient succumbs to their rapid growth and absorption into the circulation of their ptomaines. The presence of Pfeifer's bacilli in the accessory cavities of the nose sets up an active hyperæmia, or inflammation followed by sneezing and a watery discharge.

The membranes may, after a brief period of inflammation, regain their normal condition, or they may assume a chronic condition. Owing to the peculiar anatomical character of this membrane, it may take on a jelly-like or myxomatous condition from which a large amount of muco-purulent matter is discharged. The retention and pressure may give rise to great pain—the so-called neuralgia that is so common about the frontal, temporal and facial regions.

After a chronic inflammation of the frontal sinus, or an ethmoiditis is set up, it may continue for years confined to the mucous membrane without involving or destroying the surrounding bony structures. The changes that are more likely to take place after an acute inflammation of the ethmoid cells are granulations which pass through their successive stages, resulting in polypi, which, by their limited space and natural gravity, are forced down into the nasal cavity. The removal and treatment of many cases of nasal polypi has convinced me that a large per cent. have their origin in the ethmoid cells, as above indicated. The same conditions are found in polypoid growths in the ear.

I am also persuaded that, after an experience with seventy-five cases of suppuration of the antrum of Highmore, some of these cases owe their origin to drainage from the anterior ethmoidal cells and the frontal sinus. I recall that in all of my chronic suppurating ethmoidal and frontal sinus cases the antrum contained pus.

Dr. Thomas Fillebrown, of Boston, in a paper read before the American Dental Association in 1896, called attention to the intimate relation of the frontal and maxillary sinuses. He, together with Prof. Dwight, of Harvard, examined eight anatomical specimens in the Harvard Museum, in all of which they found that, instead of the infundibulum terminating in the middle meatus, it continued in the form of a groove or half-tube directly into the foramen of the maxillary sinus. If this be true, and I have no reason to doubt it, it explains the origin of many cases of empyema of the antrum found in conjunction with anterior ethmoidal and frontal sinus disease which may be directly traceable to attacks of La Grippe.

Fraenkle has stated that in one hundred and forty-six unselected autopsies in the post-mortem room of Hamburg, he found in forty per cent. of the cases involvement or disease of the accessory cavities of the nose. In twenty-two autopsies of children, dead of diphtheria, Wolff found the maxillary and ethmoidal sinuses involved in every case. Of thirty children who had died of diphtheria, measles, scarlet fever or whooping cough, Harke found suppuration of one or more of the cavities in every case, while in thirty-seven adults, dead of acute infectious diseases, there were thirty-one who had disease of the accessory cavities.

The following cases will serve to illustrate the after-effects or sequella of many of these cases of La Grippe:

CASE I.—Mr. B., age 32, was referred to me in 1895. He stated that he had always enjoyed good health until the winter of 1889, when he had a severe attack of influenza, or La Grippe. During this attack he suffered great mental and physical depression and had all the characteristic symptoms of the catarrhal form of the disease. Recovery was very slow; in fact, he had never regained his former energy. In the Spring of '93 he had another attack, much the same as the first, but less severe. After this attack he was frequently despondent and had forebodings of all sorts of diseases. On examination I found him skeptic, with no faith in any one's ability to help him. The right nostril was filled, high up, with polypoid growths and there was a profuse muco-purulent discharge coming, evidently, from the anterior ethmoidal region. The removal of the tumors and fully one-half of the middle turbinate, which gave drainage to the frontal sinus and ethmoid cells, finally gave him complete relief. He has since gained twenty pounds in weight.

CASE II.—In May, 1895, I was consulted by Mr. S., age 52, who gave a history of two marked attacks of La Grippe. The first was in February, 1890. The attack began with what he supposed was a severe cold in the head. It was accompanied with a great deal of pain about the head and face, which was soon followed by a profuse muco-purulent discharge from the nose. With this came great mental and physical depression, from which he recovered very slowly. The purulent discharge from the nose still continued more or less up to the Spring of '94, when he had another attack, but less severe than the first, which left him with an increased discharge from the nose. When I first examined him in 1895, I found the middle turbinate on the right side much enlarged, boggy and covered with yellow pus, coming, apparently, from the frontal sinus and the anterior ethmoidal cells. I also found the right maxillary sinus filled with pus. His history for the last two years showed a varied degree of septic poisoning. I proceeded by degrees to open up these cavities by drilling the antrum through alveolar process and snaring with a cold snare the anterior half of the middle turbinate body, which was found to be hollow and communicating with the ethmoid cells. The drill was then used to farther open up the ethmoid cells. From these cavities I washed out an enormous amount of pus. Great improvement followed these operations and the patient says he feels like his former self, but there is still a slight discharge coming, apparently, from the frontal sinus. This case differs from the first in that it was of longer standing and there was no granulated tissue or polypoid growths.

These cases may, for convenience, be divided into three groups:

1. Those that run an active or rapid course and are often spoken of by patients as "risings in the head." After a brief period of profuse discharge, these cases, which constitute the great majority, return to their normal condition.

2. Those which assume a chronic form, passing into a granulating stage, finally resulting in polypoid growths.

3. Those which result in the suppurative form without granulating and may continue for years without destruction of the surrounding bony structures. These two cases reported are examples of the two latter groups.

The majority of cases that are met with in special practice are those of long standing, or those that are passing from the acute into the chronic stages from insufficient drainage. I am fully persuaded that these cases are more frequent than formerly, and that many of them are directly traceable to La Grippe.

In conclusion, I wish to say that of all the regions of the head, the group of cavities surrounding and communicating with the nasal fossa are, perhaps, the least understood as to their functions in health, and their far-reaching and disturbing influences in disease. Further, I believe that many of the headaches and neuralgic pains occurring in acute diseases are due to involvement of these cavities.

42 East Ohio St.

AN ESSAY ON THE NOSE—PHYSIOLOGIC AND IDEAL.

BY FAYETTE C. EWING, M.D., ST. LOUIS.

Fellow of the British Rhinological, Laryngological and Otological Association.

"A good nose is requisite to smell out work for the other senses."—*Winter's Tale.*

Fool: "Canst tell why one's nose stands i' the middle of his face?"
Lear: "No."
Fool: "Why, to keep his eyes on either side, that what a man cannot smell out he may spy into."

In its earthly pause, "that Divine Apparition" paid tribute to the nose. Yet, of all the organs of special sense, it is least in the regard of modern man. There seems hardly an exception to this rule. People are objectively cognizant of the service rendered by the eye, they are subjectively conscious, almost continually, of the estimable delights and uses of the ear. The average mortal, as well as the gourmand who lives to eat, would as soon dispense with his "maw" as his taste. Concerning touch, it often is the source of keenest pleasure, and seldom gives offense. When it does, we realize that voluntary action contributed to the fault, and censure is modified. To the many, the nose is merely a passage-way by which the air may reach the lungs, and if we are to judge by the leaden-eyed, narrow-faced dullards, whose jaws nestle in the recesses of their chests, that we meet here, there and everywhere, even this limited function is not respected. Few, indeed, are they who appreciate the wonderfully complex duties performed by the nose. To them it is only necessary that the air penetrate the lungs, and it matters not that such air is an irritant. Our bodies are maintained at a temperature of 98.6 degrees, and certain organs are ill adapted to extreme and sudden meteorologic changes. The spongy and cavernous tissue, lined by the nasal mucous membrane, is so abundantly supplied with a network of proportionately large blood vessels that a great amount of heat is given out. This heat-forming function is further increased by a re-duplication or folding of the membrane upon itself, thereby multiplying the muciparous glands and adding to the blood supply. The air passing over this membrane, so richly supplied with blood and mucous, is elevated in temperature, and its relative humidity increased, thereby saving the respiratory organs further down from irritation that would not fail to develop a pathologic condition. This becomes a most important function under our systems of heating offices and homes. The drying of the air by furnace and steam heat makes it necessary that moisture should be supplied by our systems, and nature has wisely adapted the nasal passages to this requirement. Absolutely dry air would induce suffocation, and that relatively so, if it entered the lungs orally, would soon produce intolerable dryness, with its train of results, since the pharyngeal and laryngeal glands, in response to a physical law, would perform a vicarious function for which they are not constituted. It has been proven that the atmosphere inhaled every minute upon London streets by an individual, contains an approximate average of about fourteen hundred microbes. When street sweepers or winds are stirring, these may be increased to fourteen thousand. It has been further demonstrated that air taken from fistulas in the lungs and trachea is sterile, and that obtained from the post-nasal chamber, if not entirely, very nearly so. This established, the question naturally arises, where have our microbes gone? Thousands of them are arrested in the vestibule of the nasal passages by the vibrissæ abounding there, and those that escape this net are washed back by the mucous that exudes so freely from the muciparous glands. This mucous contains a chemic element unfavorable to the growth of bacteria, and declared by certain eminent observers destructive of them. Free drainage, and this antibactericidal quality of the mucous largely explains the immunity from septicæmia in operations within the nose. A single one of these microbes, if it found suitable soil upon which to germinate, might produce incurable disease. Realizing that not only our physical comfort, but our very lives may depend upon respiratory efficiency, we have received an appreciable lesson in the value of noses. What would be the fate of the embryonic sounds conceived only in the larynx and sent forth to amplify in a larger, more expansive world that includes the nasal space? Important, indeed, is the part played by the nose in the production of harmonious sound. It is commonly supposed that the voice and all its qualities have their full development in the larynx. Recently there was sent across the sea, and exhibited to the British Rhinological, Laryngological and Otological Association, by an American surgeon, a man whose entire larynx had been extirpated for a cancerous growth, yet the patient not only spoke, but could be heard distinctly at the further end of the room. In truth, this organ possesses very limited capacity, its compass embracing only a few tones of the musical scale, while its independent sounds are harsh and discordant. The vibratory sounds of a bassoon or hautboy, after detachment from the rest of the instrument, represent about the possibilities of the human larynx unaided by its resonators above. These facts have been conclusively proven by experiments in cases of wounds in the neck, wherein the vocal cords were exposed and separated from the cavities above; also on the extirpated larynx. When this column of air in the larynx is brought in contact with the resonators, of which the nasal chambers form very material parts, it becomes a self-sounding body, and the number of tones, as well as their quality, are increased and altered. The nasal chambers, though not in direct contact with the vocal cords, partake, nevertheless, of their vibrations just as the air in a violin is attuned and answers to the motion of the strings. It is a common term of reproach to say a person talks through his nose. The fact is, the opposite habit produces the "nasal twang." Compress the nostrils between the fingers and witness how absolutely the tone changes. That characteristic of the voice we call *timbre*, which enables us to recognize the tone of friend from foe, is due to the shape of the cavities above the larynx. The facility, rapidity and precision with which they may be attuned by altering their shape, constitutes the trained voice. When we consider that so small a thing as granulations in the naso-pharynx may make harsh or hoarse the emanations of a perfect larynx, how much more potent for harm may become an obstruction in the nasal passages, those cathedral aisles through which are heard an invisible choir? If parents did but realize this for their children while young, the world would be sweeter in story and softer in song. But for her nose, where would go the winged words of a Melba, that in their heavenward flight drag souls from the sloughs of the commonplace, like "trailing clouds of glory," quite to the stars. Millions have been swayed by a *quality* in the human voice, dynasties have stood and fallen at the magic of its command, and that millenium for which a Divine Prayer was lifted, and has reverberated down the centuries, made more manifest on earth through its inspiration and power.

As an organ of sense the nose is regarded more an offense than a delight, and it is seldom considered in its utilitarian aspect. A disagreeable but harmless odor is borne to us, and forthwith we would part with our noses, forgetting the virtue of a fault which a few hours previous enabled us to detect the invisible gases that might have made home a hospital.

Certain metaphysicians claim that all intellectual attainment is derived through the medium of the senses. According to them, impressions are remembered, and there is no intellectuality that is indissoluble from sensuous experiences, an abstract thought being removed from sensation by successive substitution. This may not be entirely unquestionable, but who will deny the influence of sense upon spiritual development, its mystery as unfathomable as the genesis of life, as deep as the grave. The subtleness and unceasingness of its workings we may not know, but certain it is, there have been no great minds that were not wholly alive to all external impressions, pain or pleasure. Literature born of genius was not conceived in a monastery into whose recesses the senses peered through iron bars. And man may be nobler for the incense that is wafted from the thurible of the rose with Nature's soft prayer.

That which we hastily conclude is a cause for annoyance may become a source of infinite pleasure, as well as serve a higher purpose. In studying the flair of certain animals we are lost in wonder. Dogs have recognized their masters' apparel that had been cast aside for a decade, and certain wild animals can detect the odor of man twenty-four hours after his passing. The human nose has proven itself capable of a development not less remarkable. The Japanese have a Game of Perfumes, which was originated as early as the tenth century, but came to perfection during the height of the Japanese renaissance, near the end of the fifteenth century. During this period the sense of smell was elevated to a fine art. In order to play this incense game, a box with many small receptacles, filled with various perfumed woods, was provided. Accompanying the box were a silver-plated mica platter, a little brazier, spatula, and some specially shaped pieces of charcoal. Ornamental counters, corresponding with the perfumed woods, were a part of the outfit. A small quantity of one of the woods was lifted from its receptacle with the spatula and placed on the platter, some charcoal was lighted in the brazier and the platter suspended over it until the fumes filled the room. One of the participants, of which there could be any number, would then guess the odor, select the counter and place it on the checkerboard. The French archæologist, Didron, narrates an account of a Britainy peasant who visited Paris with a cabinet of drawers that he called a "Perfume Harmonium," but nasal artists were so scarce in that otherwise sensual city that he was sent home unhonored and unfranked.

There can be no doubt that an importance was associated with the sense of smell by the ancients far beyond our estimate. So esteemed was it that aromas were offered to the Gods to propitiate them, and appease their wrath. In our own time there are remarkable evidences of its development. Helen Kellar, deaf, dumb and blind, is always conscious when anyone enters her room, no matter how noiselessly. A certain blind man, in New York, is capable of distinguishing passers on the street whose hands he has once sniffed. James Mitchell, well known to the medical profession, was blind, deaf and dumb from early infancy. To compensate for afflictions, seemingly so insuperable, nature gave him a flair that enabled him to remember those with whom he had come in contact, and draw fine distinctions of character. Thus, we may have an instinctive and discerning faculty in our noses, latent, but potent for good when its services are required. Suggestive of this is the old saw that "men follow their noses." And, though this be not inseparable from humor, it is more than a paradox. In their evolution men's noses have grown with their minds until what is true of the races has become applicable to the individual, and we are wont to measure the intangible by the physical and declare that "great men have great noses." The æsthete who turns from the contemplation of the classic nose, creation of the Supreme Architect, to the seeming transcendant beauties of the Parthenon, "the one thing finished in this hasty world," might ask why the Greeks did not pattern the divine plan. Then would their temples for the Gods have been builded by the Gods. Post and lintel yielded line and symmetry, and served a cold artistic purpose as to the polished columns and chiseled cornice of a mausoleum. White and fair, but a pearlless shell. That noble arch that upholds the brow is type of conscious strength and order. It supports an embodied spirit, its curve is grace and beauty. Physiologists have directed attention to the fact that the nerves of smell reach the brain by a shorter course than do the sense conductors of any other organ. And short is the bridge spanning the space that separates the soul from its footstool, over which it passes when it comes down to materialize in sight of man. In that rugged ridge is the invincibleness and fixedness of a Hannibal, a Marlborough or a Wellington. And so we may have, as there once was, manifest in a nose, the imagination of a Shelley, the sensitiveness of a Keats, and the intellectuality of a Bacon. If this were all. The "bottled nose" betokens a bottled soul in the lurid light shed by the spirit of rum above, its temple usurped and a broken bridge between. And, there are blunted noses, and those that are small and narrow, and crooked and distorted, and wanting in character in as many ways as the souls of men.

Grand and Lindell Boulevard.

SUPPURATIVE INFLAMMATION OF THE FRONTAL SINUSES.*

BY F. E. SAMPSON, M.D., CRESTON, IOWA.

With the location and general anatomy of the frontal sinuses I take it for granted we are well acquainted. These cavities have probably suppurated in some individuals ever since they formed a place in the noble brow of man, and may be before.

As a distinct entity, suppurative inflammation in this regios has not occasioned much remark until recent years. Along with the other accessory cavities of the nose the frontal sinus is beginning to attract something like the attention it deserves.

I am aware that most of our text books treat the subject rather lightly, and refer only to the cases in which the outlet becomes occluded. They speak of the frontal sinus as a well-drained cavity, and on this account deserving little notice so long as the infundibulum is open. I might mention the fact that the uterus is a well-drained cavity, and on the same ground urge expectancy in the treatment of utra-uterine suppuration so long as the os remains open. We have certainly learned to look with suspicion upon suppurative inflammation in any part of the body, especially in any part that is in close relation with the brain and thereby rendering possible the occurrence of thrombosis of its sinuses, infection of its coverings and metastatic abscess in its substance. The study of suppurative lesions of the nose and ear, with their accessory cavities, is throwing light on the etiology of encephalitis as the study of the vermiform appendix has elucidated peritonitis.

Furthermore, suppuration of the nasal accessory cavities is generally recognized as having an important bearing on general health, aside from the local mischief and its possible transmission to the encephalon.

When we further remember the position of the frontal sinus in relation to the other accessory nasal cavities, with its outlet in close proximity to those of the ethmoid cells and maxillary sinus, it is at once apparent that persistent suppuration from the frontal might be a source of constant reinfection of these cavities. I have been repeatedly impressed with this fact by cases of maxillary abscess that were treated without result until the corresponding frontal sinus was made a party to the offense and placed under discipline. Enough as to the importance of considering this lesion.

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*Read by title before the Western Ophthalmological, Otological, Laryngological and Rhinological Association, St. Louis, Mo., April 7, 1897.

Infection of the frontal sinus usually occurs by extension through the infundibulum, or directly from without, by trauma. Neoplasms within the sinus may become infected through the circulation. Contributory features are, inflammation of the intra-nasal structures. In obstructed outlet cases, narrowing of the nasal cavities by deviated septum, polypi, or hypertrophies is often an important element in producing occlusion of the infundibulum. The acute infectious diseases, especially La Grippe, seem to establish conditions favorable for the infection of this as well as the other accessory cavities of the nose.

Suppuration in the ethmoid may break through and directly infect the frontal sinus.

Abscess of the maxillary sinus may be the primary lesion and establish direct communication with the frontal sinus.

The diagnosis in true empyema is not generally difficult. With complete obstruction of the outlet, the pressure phenomena become pronounced. The pain is severe. Mental application impossible. Insomnia often a marked feature. Percussion over the sinus elicits pain, and trans-illumination shows a dark area over the suspected region. The abscess may bulge into the orbit. With this array of evidence, the only thing to be excluded would be a solid neoplasm, which could not be positively excluded without invading the cavity.

The cases in which the outlet remains open, or is intermittently obstructed, are not so easily recognized. Pain may be referred to the frontal region in maxillary sinus abscess, when there is no suppuration in the frontal sinus. On the other hand, suppuration may occur in the frontal sinus with but little or no pain, and percussion elicit no tenderness, so long as the outlet remains open.

History of a purulent discharge from one side of the nose is highly suggestive of trouble in some of the accessory cavities. Having ruled out foreign body, rhinolith, septal abscess and purulent dachrocystitis, we proceed to determine which of the accessory sinuses is at fault. With the exception of the sphenoidal sinus, all these cavities drop their overflow into the middle meatus, where it may be seen along the lower border of the middle turbinate. Much has been written by way of attempt to locate the lesion by appearance of pus, as to color and consistency, by the constance or intermittance of its flow, by posture of the patient and observing the location of the pus—the inspected parts having been previously cleansed. Evidence derived in this way is of itself very indefinite. And furthermore, even though we be positive of pus in the maxillary sinus and ethmoid cells we may be still in doubt as to the frontal sinus.

Trans-illumination is by some considered unimpeachable. While my experience with it has so far been satisfactory, yet I can see how it might lead one into error.

Ordinarily, when the sinus shows dark we will find pus, or at least a greatly thickened mucosa; but let us run briefly over the possibilities; if the sinus shows clear, it means one of two things, it is either healthy or contains a mucocele; if clearer than its fellow, it does contain a mucocele; unless the other sinus be diseased, absent or contains a solid neoplasm. If it shows dark, the sinus contains pus or has a thickened mucosa—unless it be a solid neoplasm or the sinus absent and its place occupied by a part of the frontal lobe of the brain.

We must also bear in mind that even though we find pus in the middle meatus, can exclude all the other accessory cavities from participation and find a dark area over the frontal sinus; that all these conditions could come from a neoplasm which had become infected either via the infundibulum or through the circulation. In other words, that the certainty of pus coming from the frontal sinus does not rule out neoplasm.

It appears, then, that our diagnosis of frontal sinus suppuration, unaccompanied by complete obstruction of the outlet, must often, if not usually, be reached by the consideration of well-selected probabilities. Assuming now that we have a suppurative lesion of the frontal sinus, what is to be done about it? I shall not attempt to enumerate the various measures which have been accused of *curing* this trouble. Many of them doubtless get well spontaneously. If we happen to be treating the case by some mild or soothing method, we naturally take credit unto ourselves—the credit often being about the same quality as that which obtains in nursing an abscess elsewhere—until it breaks. I do not mean to say that methods of treatment other than operation are without value. In the absence of urgent indications, expectancy is often a good line to follow—at least until we see that nature, unassisted, is not going to get through with it. Before resorting to operation on the frontal sinus, we should do what we can for any nasal disturbance. Keep the parts clean, and, even if the infundibulum is occluded, applications of cocaine solution about its lower orifice may restore its patency. If we succeed in opening the passage, and in cases where it has remained open, we may try to medicate the sinus with some gas, such as formaldehide, forced into the nose under pressure. Our English friends claim good results from oxygen. The general condition of the patient must not be forgotten.

If these measures fail to give the desired result, we have the operative procedures.

The indications for operation I would state as follows:

1. Retention of pus within the sinus, not relieved by the above mentioned measures.

2. Persistent purulent discharge from the frontal sinus, after any other involved accessory cavities of the nose have received proper attention, viz.: Opening and treatment of the ethmoid cells and maxillary sinus, in event of their involvement.

3. If, after months of thorough but unavailing treatment of suppurative disease in the ethmoid or maxillary sinus, trans-illumination of the frontal sinus shows a dark area, we are justified in opening this cavity from without, even though there be no evidence of empyema of the sinus, or positive proof of purulent flow through the infundibulum.

Before considering methods of operation, let us briefly review some recent studies in anatomy of the frontal sinus. Dr. Tilley, after examination of 120 skulls, reports as follows: "The capacity of the frontal sinuses varies from a few minims to half an ounce or more. The sinuses may be absent in the adult. The prominence of supercilliary ridges is not a safe index to the capacity or extent of the frontal sinuses. The two cavities are not always symmetrical; the cavity on one side may be small while its fellow may be large; or it may even be absent on one side, the other being well developed. The openings and direction of the infundibulum are also subject to wide variations."

In speaking of operations I shall not refer to methods in detail. The frontal sinus may be approached from below, via the nose, or from without—opening through the anterior wall. By the intra-nasal method an attempt is made to catheterize the infundibulum. In event of failing in this, a way is broken through with gouge, bur or trephine. This method has distinguished advocates. A glance at the anatomy of the part, the frequent anomalies, and a review of the disasters that have followed this method, tends to make one afraid of it. A few months ago Vohnsen reported a case where the attempt was made to medicate the frontal sinus by blowing powder through a catheter, supposed to be in the infundibulum. At the autopsy it was found that the cranial cavity, instead of the sinus, had been medicated. Another, reported by Mermod, in which a probe, and subsequently a catheter, was supposed to have been passed into the sinus *per viam naturalis*. Fatal meningitis followed, and at the post-mortem, part of the frontal lobe of the brain was found to occupy the space usually occupied by the sinus.

Even when successfully done, this method only gives drainage, and possibly enables us to medicate the cavity. The cases that can be catheterized *without force* will, in my opinion, get along fully as well without. When force is used, the operation is painful and is likely to require frequent repetition. It does not give us exact information as to the contents of the cavity. It may be the means of infecting a neoplasm which has given us the pressure symptoms and trans-illumination shadow of empyema, and possibly delay the recognition of conditions that should receive prompt and radical attention.

These considerations, along with the doubts that must often arise as to the accuracy of diagnosis, lead me to believe that where operative interference is indicated, opening through the anterior wall is to be preferred, and an opening of sufficient size to permit free exploration.

Bilateral Zoster of the Mouth and Pharynx.

This affection presented itself in a male patient, seventy-eight years old (M. Lermoyez and M. Barozzi, *N. Y. Med. Journ.*, March 12, 1897). No general symptoms appeared except pain in the mouth for forty-eight hours. The eruption occupied the palatine arch, the velum of the palate, the upper gums, and the neighboring gingivo-labial grooves. It was formed of groups of vesicles seated upon erythematous patches, and was seen as a symmetrical zone, around the floor of the mouth. Several attacks occurred, but no eruption was observed on the body. The disease lasted about four weeks. Owing to the absence of general symptoms and relying upon the perfect symmetry of the eruption, a diagnosis was made of bilateral symmetrical bucco-pharyngeal zoster of the parts innervated by the second branch of the trigeminal nerve.

M. D. L.

DISEASES OF THE GLOSSO-EPIGLOTTIC SPACES.*

BY DR. J. F. BARNHILL, INDIANAPOLIS, IND.

Professor of Physiology and Instructor in Diseases of the Nose and Throat, Central College of Physicians and Surgeons, Indianapolis, Ind.

I have felt justified in reading a paper before the association on the diseases of the glosso-epiglottic spaces from the following reasons:

First, the subject being comparatively new, little is said concerning it in text books; and medical journals have had fewer articles concerning this locality than about others of less importance. Second, the rather large number of cases I have seen who have received treatment for catarrhal conditions at the hands of specialists of experience, the patients having been skillfully treated in a limited way, every pathological condition having received careful attention from the alae nasi to the cricoid cartilage, excepting the spaces between the tongue and epiglottis; and yet these patients considered themselves uncured, complaining of many or all of the symptoms enumerated in the body of this paper. Third, the frequency of the diseases of the spaces, and the importance of recognizing and appropriately treating the same.

The pathological conditions found in these fossae are, I should say, giving them somewhat in the order of their frequency, hypertrophied lingual tonsil, varicose veins, papilloma, fibro-sarcoma, and carcinoma. Syphilitic and tubercular ulcerations are found here, but it was scarcely the intention to discuss them. The spaces, particularly when occupied by a growth of any kind, are quite subject to acute and chronic inflammatory conditions.

Enlargement of the lingual tonsil, varying in degree from that barely perceptible to masses projecting over and partially concealing the epiglottis, existed in about twenty per cent. of all the cases I have examined with reference to the matter. Varicose veins were found in about one per cent. of consecutive throat cases, without reference to age, but limiting cases to those past middle life the per cent. is higher. More cases were males than females.

I have seen two cases of papilloma here: one in a very nervous lady, age thirty-one; the other a gentleman, age thirty-five, a man of great muscular development and perfect health, except the distressing cough to which the papilloma gave rise. In addition to the warts at the base of the tongue, his integumentary surface bore two-score of warts and moles. Those in the glosso-epiglottic spaces were multiple, the size of a ripe currant, and two were predunculated. This surface was studded with horny epithelial spines after the type of the "seed" wart. I have seen one case of fibro-sarcoma which was secondary. A general surgeon had a few months before removed several lymphatic masses from about the body of the jaw, after which the faucial and lingual tonsils began immediately to enlarge, the former crowding the soft palate far upward, and laterally extending into the isthmus beyond the median line. The lingual tonsil projected upward against the faucial and backward over the epiglottis, giving rise to great difficulty of deglutition and respiration. It could be easily seen in this situation when the mouth was open. It weighed more than an ounce after removal. (Reported to Marion Co. Medical Society.)

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*Read by title before the Western Ophthalmological, Otological, Laryngological and Rhinological Association, St. Louis, Mo., April 8, 1897.

As to symptoms, a considerable number of patients, under my care for other ailments, have been observed to have greatly enlarged lingual tonsils without any complaint whatever, and it has not been uncommon to find hypertrophies in these spaces large enough to infringe upon or even overhang the epiglottis, with the patient disclaiming all knowledge of anything ever having been wrong with the throat. Others with much smaller and comparatively insignificant growths complained of many or all the symptoms here enumerated. I account for this in two ways: first, in persons of highly sensitive nervous systems, the slightest touch of a foreign body against the hypersensitive epiglottis will excite the reflex centers of the air tract in a degree that would not be possible in one whose nervous tone is normal; second, the conformation of the epiglottis in many cases is such that instead of standing up and away from the base of the tongue, as it normally should, it curls unduly forward, projecting its crest directly against the base of the tongue and over the glosso-epiglottic spaces, thus unduly infringing upon the smallest nodule of lymphoid tissue, and giving rise to symptoms equal in severity to those found in cases where the spaces are filled with tumors many times larger, but with normal epiglottis.

A feeling of irritation, fullness, and a disposition to clear something from the throat is a very constant symptom. Cough, varying in degree from an occasional dry hack to the most distressing and frequent paroxysms, is common. Such violent coughing sometimes ruptures one or more of the venous radicles of the spaces, which are often varicose, and particularly in patients past middle life, thus giving rise to a smart hemorrhage, which, as a matter of course, greatly alarms the patient and may prove perplexing to the attending physician, if he be not skilled in the use of the laryngoscope.

I have seen many cases who coughed but little, and felt but slight annoyance, except at the time of taking food, when there would be such violent paroxysms of cough as to necessitate the patient's leaving the table, and sometimes vomiting. I have also seen a few of another class in which the tumor projected so much over the epiglottis that during the second stage of deglutition, when the tongue is normally carried far backward over the larynx, the growth being thus carried still further backward, would partly fill the pharynx, and thus mechanically obstruct the act of swallowing, the patient complaining that the throat felt as if it had "partly grown up."

Functional heart disease is often much aggravated, and I believe sometimes wholly caused by disease of these spaces. Globus hystericus has usually accompanied such cases, together with other symptoms commonly classed hysterical. I believe some of these cases are cured by proper attention to the upper air tract, and particularly the spaces under consideration.

Other symptoms are sore throat, the nature of which can only be determined by laryngoscopic examination, when there may be found to exist any one of the varieties of tonsillar affections which are better known in connection with the diseases of the faucial tonsil, such as acute lingual tonsilitis, acute follicular lingual tonsilitis, etc., and, while I have never seen, or know of no reported case, it seems reasonable that diphtheria may attack the lymphoid tissue here as readily as in the tonsillar tissues higher up. Voice weariness, hoarseness, scratchy sensations in the throat, and a long list of other sensations, peculiar to each case, are often found.

Treatment—Many cases are nervous or anæmic, and a considerable per cent. of the female patients have menstrual disorders. The peculiar nervous state at the menopause, together with the increased tendency toward varicose veins, causes suffering at this period from conditions that had before gone unnoticed.

Such cases require constitutional treatment appropriate to each.

Tumors of the spaces, which have been so innocent as to be unnoticed by the patient, should be let alone. Where annoying symptoms are present, extripation of any hypertrophy should usually be advised. Surgeons differ as to methods of removal, some preferring excision, some the wire loop or galvano-cautery, while a few believe caustics and iodine compounds quite sufficient. I always use the snare when the growth projects sufficiently to be readily engaged by the wire loop. When the tumors are flat or small, I know of no better instrument than the Myles' lingual tonsillotome. Patients complain of much less pain, and there is very much less inflammatory reaction and general distress when the snare or tonsillotome has been used. The cure is also more rapid. I use the electro-cautery on varicose veins, very small hypertrophies that are difficult to engage in the snare or tonsillotome, and for other reasons which rarely arise. The cautery gives rise to but very little pain at the time, the part being thoroughly cocainized, but the after-pain and distress, usually arising from the inflammatory reaction set up in the loose tissue of the spaces, has been in my hands the source of such great annoyance that I now resort to this method only in selected cases. When electricity has for any reason been used, I have observed the least trouble, and the best results, when I employed a blade or needle-pointed electrode which could be plunged into the center of the growth and the destruction thus be accomplished from the center outward. As a matter of course, great care should be exercised not to use the cautery too freely, one or two nodules only being punctured at a sitting, and the greatest care exercised in avoiding injury to neighboring healthy tissues.

I have never used chromic or other acids as destructive agents in this region, knowing the difficulty with which the space is rendered sufficiently dry to prevent spreading of such agents to surrounding tissues. With one exception I have abandoned the use of the various iodine compounds and other so-called sorbefacients, their action, if at all beneficial, being so slow that patients either cease their visits or ask to be relieved by the more rapid method of extirpation or destruction. The exception referred to is the iodine and carbolic acid compound recommended by Chappell. This preparation has the decided merit of sticking to the spot to which it is applied and not spreading to adjoining healthy tissues. Its application is about as painful as the more radical methods, and requires so much longer time to accomplish its purpose that one is only justified in using it with timid patients who are afraid of all "operations."

222 N. Delaware St.

THE RELATIONSHIP OF OBSCURE THROAT SYMPTOMS IN ADULTS TO THE PHARYNGEAL TONSIL.*

BY H. MOULTON, M.D., FORT SMITH, ARK.

The following symptoms are sometimes observed: A feeling as of a foreign body in the pharynx; a desire to clear the throat, accompanied by secretions and hawking; when nothing, or very little, can be cleared from the throat, and when such act gives no relief. When we examine the throat and find no abnormity of the uvula, tonsils, pharynx, larynx, lingual tonsil or nasal passages, and an apparently normal naso-pharynx, we must make repeated observations of the latter. We will sometimes find in this space no obstruction whatever and no discharge, but a slight general thickening of the adenoid tissue in the vault, which, in most cases, would be overlooked, and which, in most persons, would cause no symptoms. But in such cases as I have described, if this tissue is removed we will almost certainly be gratified with relief of all the symptoms.

Some cases are reported in the paper in which the patients had been much annoyed for years and sought treatment in vain until this operation had been done.

These cases prove that the pharyngeal tonsil must sometimes be operated upon when the usual indications, such as obstruction to respiration, naso-pharyngeal discharge or ear symptoms are absent. The symptoms present in these cases were considered as purely reflex and disappeared on removal of the cause.

The operations were done under cocaine, with post-nasal cutting forceps.

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*Abstract of Paper read by title at the Western Ophthalmological, Otological Laryngological and Rhinological Association at St. Louis.

An Intra-Nasal Application for Epistaxis. (*N. Y. Med. Journ.*, May 10, 1897.)

Bouzier suggests the following combination:

R.	Benzoric Acid	Each, 1 part.
	Tannic Acid	Each, 1 part.
	Carbolic Acid	Each, 1 part.
	Collodion	20 parts.

M. D. L.

THE INTRA-CRANIAL COMPLICATIONS OF SUPPURATIVE DISEASES OF THE MIDDLE EAR.*

BY J. MORRISON RAY, M.D.

Clinical Professor of Ophthalmology, Otology and Laryngology in the University of Louisville, Etc., Louisville, Ky. Surgeon Louisville City Hospital.

It seems scarcely in order for me to ask farther attention to the importance of a familiar acquaintance with the parts of the bony casing of the skull implicated in inflammatory conditions involving the auditory apparatus. Those who have preceded me have considered the various forms of suppurative inflammations in the organ and have thoroughly impressed upon you the anatomical arrangement and relationship of the tympanic cavity, which is the primary seat of pus formation in nearly all pyogenic processes originating in this region.

The temporal bone as a whole is one of the most complex bones that make up the cranial walls. Every student of medicine can vividly recall the many hours of distrust and unrest that preceded the quiz by the Professor of Anatomy when this intricate bone with its many sides, surfaces, eminences, depressions, foramina, fissures, canals and fossæ, was under consideration. It is truly the pons assinorum of the medical student.

When we desire to consider the complications that may result from pent-up pus in the tympanic cavity, a thorough knowledge of the topographical anatomy of this bone becomes essential. The usual custom of considering it solely as a part of the organ of hearing, and therefore of value to those only who are directly concerned in the treatment of ear diseases, is fast passing away.

To draw the attention of those not engaged daily in aural surgery to the frequent occurrence of diseases in vital organs directly due to primary pathologic involvement of this bone, is the object of this paper—and to impress upon them the importance of considering it in all diseases of the cranial cavity when the formation of pus or inflammation of the membranes surrounding the brain is suspected. Indeed, experience is fast fixing upon the temporal bone in relation to the cranial cavity the same importance that all progressive surgeons now bestow upon the appendix, when purulent inflammation attacks the serous surface found in the abdominal cavity.

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*Read in a discussion on Suppurative Diseases of the Middle Ear and their Complications, before the Kentucky State Medical Society, May, 1897.

To the aural surgeon I need not speak of the dangers resulting from pus in the tympanum. In his anatomical dissections and study, and his clinical experience, he is certainly amazed that so few neglected cases of disease in the tympanic attic and mastoid antrum prove serious. A consideration of such conditions far surpasses in importance the mere question of audition. The roof of the tympanic attic which separates this cavity from the middle cranial fossa is very thin in most cases, and the bony elements even absent in many. I have seen this plate of bone so attenuated in post-mortem investigations that it was easily translucent under dim illumination by ordinary daylight.

The tegmen antri is even less resistant than that of the attic and its posterior wall is often directly in contact with the sigmoid groove in which lies the lateral sinus. In most cases one of these routes is the course taken by the pus in passing through the bone, yet it may travel by way of the internal auditory meatus, traversing and destroying in its course the auditory perceptive elements contained in the internal ear—or it may pass into the canal for the tensor tympani muscle and perforate the overlying bone, or even pass into the nasopharynx or glenoid fossa. Besides these channels for direct extension, there is no question but that in a certain number of cases, pyemia and meningitis result from ear disease, without destruction of the bony wall, the pyogenic organisms passing into the lateral sinus through the mastoid vein or to the meninges by the veins passing through the aqueductus vestibuli.

A consideration of the intra-cranial complications thus follows naturally upon the study of the anatomical surroundings of the tympanic cavity. If the roof of the attic or antrum is the course of the pus channel it will produce a subdural abscess, or rupture the dura and a lepto-meningitis or a pus-accumulation in the middle or temporal lobe of the cerebrum will result. Should the course be through the back wall of the antrum or adjacent cells, then the pus will come in contact with the lateral sinus in the sigmoid fossa, and by destruction of the venous wall empty the pus into the sinus and a pyemia alone or complicated with a meningitis becomes established; or, if its course is farther backward an abscess in the cerebellum follows.

All the intra-cranial complications of ear diseases may, from what we have just stated, be divided into:

1. Those affecting the membranes surrounding the brain, a meningitis or subdural abscess.

2. Those affecting the substance of the brain, either the temporal lobe of the cerebrum, or the cerebellum, producing pus accumulation.

3. Those in which pyemic symptoms result from the pyogenic process perforating the walls of the lateral sinus in the sigmoid groove.

Certain complicated cases present themselves in which two or more of these processes are found in the same subject. A knowledge of the frequency with which such complications occur in the course of pus formation is of the greatest value. Our experience justifies the statement that chronic suppuration involving the upper portion of the cavity of the tympanum and the connecting mastoid antrum is the form most often to be suspected. Especially is this true of the so-called quiescent perforations that have resulted from the eruptive fevers in early life. It may follow the acute suppurative process, but we expect to find mastoid periostial abscess in the majority of such cases.

The personal experience of every aural surgeon yearly brings him in contact with a number of cases in which death has resulted directly from ear disease. My own observation for the past year includes six fatal cases in an approximate total of 350 ear patients treated.

Gruber, in a study of the post-mortem records of the Vienna General Hospital, found that of 40,073 autopsies 1,806 deaths resulted from intra-cranial diseases of all forms. Of these 1,806 cases 232, or 12.8 per cent., were of otic origin.

With reference to the relative frequency of the different complications found in the cranial cavity as a consequence of otitis, Koerner, in 151 observations, found abscess of the brain substance in 67, pyemia and sinus thrombosis in 61, and a diffuse meningitis in 23.

Of the utmost importance in dealing with the grave sequelæ to ear disease is an accurate and timely diagnosis. All those who have seen many such cases, agree that often this is most difficult.

The various symptoms presented in abscess, sinus pyemia and meningitis are frequently mixed or the early symptoms impossible to obtain.

Meningitis is usually preceded by meningeal irritation in the form of headaches, slight nausea and dizziness with increase of pulse rate. After the pyogenic organisms from the ear have infected directly the membranes, a purulent meningitis rapidly develops. Headache becomes violent, vomiting frequent, temperature high and pulse rapid, with dry tongue and great thirst, followed by delirium, stupor, muscular spasms, especially of the neck, paralysis of the muscles of the eye, optic neuritis, coma; all these symptoms following a lessening of the pus flow from the affected ear.

If the inflammatory process be slow in development, it may become localized, directly overlying the infective focus from the ear. The meningeal symptoms become centered in a pachymeningitis or possibly the pus becomes walled in and an extra-dural abscess forms, such conditions being far less destructive than when the pyogenic process penetrates the dura into the capillary network found on its inner surface; in such event a wide-spread, violent lepto-meningitis ensues.

Thrombosis of the lateral sinus generally results when the erosion occurs through the posterior wall of the mastoid, the pus penetrating the sinus wall and emptying the infectious material directly into the circulation—the blood becomes coagulated, the sinus obstructed and a septic thrombosis established.

Involvement of the sinus quickly develops general pyemic symptoms, high fever with frequent rigors, producing great fluctuations of temperature. Together with these symptoms, those of great pain radiating from the mastoid, with œdema over the bony prominence behind the ear, distension of the veins in the cervical region, especially the internal jugular along the border of the sterno-cleido-mastoid, and optic neuritis are generally sufficient for a diagnosis.

Abscess of the brain tissue resulting from infective material from the ear is generally found to involve the temporal lobe of the cerebrum by extension from the middle ear through the roof of the attic or antrum opening directly into the middle cranial fossa; or the cerebellum by necrosis occurring through the back wall of the mastoid or through the internal auditory meatus, into the posterior cranial fossa. The frequency with which the abscess is situated in the cerebrum indicates the proneness for the suppuration to extend through the tympanic roof. Barr, in 76 cases, found the abscess fifty-five times in the temporal lobe, thirteen times in the cerebellum. Koerner, of 100 cases, found 62 in the middle cerebral lobe, 32 in the cerebellum and in six cases both the temporal lobe and cerebellum were involved. The investigations of Gowers and others farther show that nearly three-fourths of all brain abscesses are of otic origin. All authorities agree that the diagnosis of brain abscess is extremely difficult and its location especially uncertain. No reliance can be placed on the condition of general health. The abscess is usually slow in its development, and those due to ear disease encapsulated. Abscess is to be suspected when persistent headache, nausea, vomiting, dizziness, subnormal temperature and a slow pulse accompany a lessening of the ear discharge. This becomes confirmed when are added constant localized pain, increased by percussion, attacks of transient loss of consciousness, narcoma, defective cerebration and optic neuritis. Most abscesses due to ear disease occupy the white substance of the lobe and thus focal symptoms in the way of special paralysis are usually absent. When the left temporal lobe is involved, however, aphasia is apt to be present.

When the brain abscess results from mastoid disease the purulent focus is most often in the cerebellum. The symptoms suggestive of cerebellar abscess in the early stages differ but little from abscess in the cerebrum. Vertigo, nystagmus, dilated pupils, interference with respiration and a constant pain over the occiput will usually direct attention to this region.

Heïman states that if due consideration is given to all the symptoms elicited, in three-fourths of the cases the course is such that a diagnosis can be accurately made.

When a case presents itself in which the symptoms point to intracranial extension of a middle ear disease, the symptoms should be carefully noted, and the fact that we are unable to differentiate between a brain abscess, a meningitis or a septic thrombus in the sinuses should have but little influence in controlling our surgical procedure. If left to nature the result is always fatal. The purulent collection breaks into the ventricles or infects the entire meningeal covering and a fatal issue is inevitable.

Scarcely a decade has passed since Barker reported the first successful operation for brain abscess, dependent upon ear disease, yet in that time more than one hundred and fifty successful cases have been reported.

In considering an operation, the primary seat of the suppurative process should not be overlooked, therefore the first step should always be to open the mastoid antrum and cells and thence the middle ear, getting directly at the source of pus formation. The revelations here unfolded should be the guide for further interference. If a sinus is found leading through the roof of the antrum or attic, this may be enlarged and the brain cavity opened, or an opening can be made with the trephine. This is best made one and one-half inches above and an inch behind the external ear, and in this way we are able to explore the temporal lobe, the most frequent seat of abscess.

If, after entering the mastoid, an opening is found leading toward the sigmoid fossa, it is better to enlarge this and lay bare the lateral sinus as it lies in the sigmoid depression. If evidence of pus surrounding it is present, and if pulsation of the blood column is absent, the sinus should be opened and the thrombus thoroughly removed.

If the cerebellum is to be investigated, a trephine button can be removed at a point one inch and a half behind the meatus and one-half inch below its horizontal plane. Whenever the brain tissue is to be explored for abscess a search is best made with a small trochar and cannla, or punctures can be made in different directions with a scalpel.

In all these operations the most scrupulous aseptic surgical technique should be followed. The skin incision should be large enough to thoroughly lay bare the bone covering the area to be investigated.

The best instruments for making the bone opening are unquestionably the chisel and mallet for the mastoids, and the trephine, reinforced by the Rongeur forceps, for the cranial cavity. Macewen, to whom we are indebted most for the impetus given this line of surgery, operates with a rotary burr propelled by the ordinary dental engine. We must start on the principle of making a wide and thorough opening in the bone, removing all structures that are diseased, expose the source of suppuration so freely that pus cannot possibly meet with obstruction in its exit.

Pritchard advises the following in all cases:

1. Thoroughly open the antrum and explore the mastoid cells.

2. Failing to find sufficient evidence to account for the symptoms, the wound in the skull should be enlarged, backward; expose the middle and posterior fossæ above and below the lateral sinus, which should be explored by means of hypodermic syringing, and sub-dural abscess looked for.

3. If clot is found in the sinus, the internal jugular should be tied, the sinus opened and thoroughly cleared of its contents.

4. If suspicion of cerebral or cerebellar abscess exist, exploratory puncture should be made and, if pus is found, evacuated.

The mere opening of the mastoid and cranial cavity is, if rightly performed, practically free of danger. Therefore both the aural and general surgeon should be ready to co-operate in these cases, and the proper measures undertaken—thereby saving the life of the patient, for if left alone the disease is sure to terminate fatally.

THE TREATMENT OF CHRONIC SUPPURATION OF THE MIDDLE EAR.*

BY SETH SCOTT BISHOP, M.D., LL.D.

Professor in the Post-Graduate Medical School and Hospital of Chicago; Professor of Diseases of the Nose, Throat and Ear, in the Illinois Medical College, etc.

The diversity of opinion relative to the advisability of irrigating the ear in suppurative conditions of the tympanic cavity, is something worthy of remark. Some very excellent otologists disapprove of the practice. With others it is the common practice to syringe suppurating ears with the solution of bichloride of mercury—1 to 5000—in the beginning of treatment, at least, and even during the course of treatment.

The best course to pursue is not a routine one, but combines the wet and dry methods, or alternates them. Often the desquamated epidermis and pus are inspissated and require the disintegrating action and friction of a warm injection to remove them, so that the diseased tissues beneath may be reached by the medicaments to be used. It may prove somewhat interesting to detail briefly the methods, both wet and dry, that have generally afforded the most satisfactory results, not only in my own practice, but in the hands of my clinical assistants, of whom there are nine, and whose experience is not inconsiderable.

Believing that the most thorough cleanliness is absolutely essential to a cure of suppurating ears, we begin the treatment by having them syringed with the sublimate solution as warm as can be borne with comfort, using at least a quart at a time with a continuous-flow syringe. The alpha, or some such syringe, affording good control over the pressure exerted, is given the preference.

Inflation is then practiced with antiseptic vapors like camphor-menthol in a 10 per cent. solution. The discharges that inflation may project into the meatus are then removed with cotton.

The next step is to fill the ear with warmed dioxide of hydrogen, or peroxide, as it is commonly called (H_2O_2). I have seen it claimed that warming this remedy would deprive it of its potency, but I have employed it in this manner for years without observing such a result.

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*Original abstract by author of paper read by title at Western Opthalmological, Otological, Laryngological and Rhinological Association, St. Louis, April 8, 1897.

In a private letter from so eminent an authority as Charles Marchand, he says:

"I received a letter from Dr. J. F. Burkholder a few days ago, in which he says that you had an argument with some doctors who claimed that when hydrozone is heated at a temperature of 102 to 110° F., it loses its strength. This is perfectly absurd. When hydrozone is heated at that temperature in a glass container, it does not lose any of its strength, and that is the proper way to use it in case of mastoid abscess and suppurative conditions of the middle ear."

The dioxide is left in the ear as long as effervescence continues. This decomposes pus, liberates oxygen, destroys bacteria and effectually cleanses the cavity. Finally, the ear is thoroughly dried out with absorbent cotton on the holder, and dusted with aristol by means of the small powder-blower. The drying effect of boracic acid is often added to the aristol when the discharge does not diminish rapidly.

After a few treatments the dry method is resorted to, if the ear can be effectually cleansed without irrigation. In occasional cases, the discharge ceases after one or two such treatments, and the instances are not few in which a week or two of this method suffices to effect a cure. Of course, these are not complicated with the presence of granulations, caries or necrosis of the bone.

Nasophen is a remedy that has recently been the subject of our experimental use. In a series of cases in which I have tried it in comparison with aristol, the results have been favorable. Although I am not yet prepared to accord it an equal place with aristol in our work, I have used it sufficiently to demonstrate that it is a valuable addition to our small list of effective drying antiseptic powders.

When it is suspected that the discharges are retained in the attic, or in the mastoid antrum, especially when the perforation is too small to admit of free drainage, it should be enlarged. But there are frequent instances in which the discharge does not diminish after thorough efforts at cleansing, disinfecting and medicating. This failure may be owing to the impossibility of the means employed to remove all the retained secretions, and the consequent failure of the medicaments to reach the diseased surfaces to a large extent. In such cases the writer's ear aspirator should be employed to evacuate the middle ear and its accessory chambers of the discharges that have been held back. In many cases that have appeared to be intractable, the adoption of this method of aspiration has been followed by a rapid recovery.

Columbus Memorial Building.

THROMBOSIS OF THE LATERAL SINUS.*

BY B. F. CHURCH, M.D., DALLAS, TEXAS.

Text books on diseases of the ear singularly treat only of mastoid complications of middle ear diseases and leave further extensions of the infection from that locality, as thrombosis of the lateral and cerebral sinuses and brain abscess, to general surgery. As the sources of infection are almost without exception in the ear, their surgical treatment legitimately belongs to the aural and not to the general surgeon.

There is no history of the lateral sinus having been opened for the removal of inflammatory products, until the late period of 1884. The first successful case operated on was by Lane in 1889. This operation inaugurated a very important advancement in surgery and has deservedly become widespread and popular.

The gravity of the affection and extremely small chance for spontaneous recovery, demands our closest scrutiny to detect its presence. When diagnosed or suspected, no time should be lost in operating. From abnormal situations of the lateral sinus, or carelessness on the part of the operator, it has, on several occasions, been accidentally opened without fatal result. In suspected cases, the surgeon is entirely justified in making exploratory investigations by laying the sinus bare and introducing a sterilized hypodermic needle, to learn the character of the contents.

Many of the symptoms of thrombosis of lateral sinus are in common with abscess of the brain, as rapid pulse, stupor, vomiting, choked disc, persistent headache, etc., yet there are others which are almost pathognomonic and leave little room for doubt in diagnosis. In general, the symptoms may be said to be severe and persistent pain, which may be referred to the frontal or occipital regions, sudden rise and fall of temperature, going to 104°–107°, severe chills of short duration and frequent repetition, tenderness on pressure over the internal jugular vein, œdema in the mastoid, temporal and zygomatic regions, without redress of the skin, etc. The most valuable diagnostic symptom of thrombosis of the lateral sinus is phlebitis of the internal jugular vein, which would feel hard and extremely sensitive to the touch, so much so that slight pressure may arouse the patient from a deep stupor. Sudden rise and fall of temperature is a characteristic symptom. Moos claims that œdema of the temporal region is a pathognomonic symptom of thrombosis of this sinus. The conjunctiva and eyelids are in most cases œdematous.

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* Read by title at the meeting of the Western Ophthalmological, Otological, Laryngological and Rhinological Association, held at St. Louis, April 8, 1897.

Pneumonia, due to pulmonary embolism or the extension of the clot to the lungs, is usually the cause of fatal termination.

Kœrner has shown that the relative position of the lateral sinus varies greatly, according to the curve of the sigmoid flexure and the corresponding depth of the sulcus sigmoides which is greater, throwing the sinus closer to the external auditory meatus, in brachycephalous skulls (skulls in which the occipito-frontal and bi-parietal diameters are nearly equal) than in the opposite, dolichocephalous. The depth of the sulcus is not commensurate with the degree of brachycephalicy, however. He also found it greater on the right side than on the left. In normal skulls the situation of the anterior wall of the sinus is one-half an inch behind the center of the meatus. It sometimes, though rarely, lies so close to the auditory meatus as to preclude the ordinary mastoid operation without wounding it. The place for trephining in this locality is usually computed from Reid's base line, which is an imaginary line drawn through the center of the external auditory meatus to the lower margin of the orbit. A trephine centered one-fourth of an inch above this line and one inch behind the center of the meatus would open the lateral sinus.

These measurements are of little practical value, for the reason that when the operation is demanded, the source of infection is the tympanum, with usual involvement of the antrum and mastoid cells, and these cavities should always be opened and thoroughly cleansed of all inflammatory products before opening the sinus, which is then accomplished by extending the wound backwards by means of the chisel or Ronguer forceps. After exposing the sinus, if no manifest indication of a clot is seen, introduce a sterilized hypodermic needle to see if it contains fluid blood.

If a thrombus is found, as stated by Dr. Adams in Transactions of the American Otological Society, 1896, three operative methods are open to the surgeon: First, to simply ligate the jugular vein; second, to open the sinus and remove the thrombus with a curette; third, to combine these operations. Simple ligation of the jugular vein has not been done many times and does not seem to have been attended with as great success as the other two have been.

Most English writers favor ligating the internal jugular vein before opening the sinus. Such a procedure is probably not necessary or advisable unless there is evidence that the clot is breaking down, or contains septic material. If the sinus is filled by a fibrinous clot, ligation is clearly not indicated; a thorough removal of the clot is all that is necessary.

The first step in the operation should be to thoroughly remove and asepticise all sources of infection in the middle ear, antrum and mastoid cells, before exposing the sinus. Then enlarge the wound backward and bring the sinus in full view for inspection. If the needle demonstrates a clot, lay the sinus open along the whole length of the skull wound, introduce a small curette, and remove all particles of clot that can be reached, compression, in the meanwhile, being made by an assistant over the jugular vein in the neck. If the clot is extensive, the wound should be extended with Ronguer forceps up towards the Torcular Herophili and the bulb of the jugular vein below, and curette again used with endeavors to cause fluid blood to flow. After all the clot is removed that is possible by use of the curette, the cavity should be syringed with a normal salt solution, and closely packed with iodoform gauze. If strict asepsis has been practiced, and no indications arise for its earlier removal, the dressing should not be disturbed for four or five days. When necessary to ligate the jugular vein, the best place is low down near the clavicle.

North Texas Bank Building.

Palliative Measure to be Used for the Dysphagia of Tubercular Laryngitis.

In order to relieve the dysphagia of tubercular laryngitis, when it has arrived at the stage of ulceration, the following is recommended: (Archiv. Int. de Lar. d'Otol. et de Rhin., Jan., Feb., 1896.)

Cocainæ Hydrochlor	25 ctgrms.	
Morphinæ Hydrochlor	10 ctgrms.	
Antipyrini	2 grms.	
Aquæ laurocerasi, aquæ distill	50 grms	M.

Sig. Three to four tablespoonfuls by atomizer during 24 hours.

If it is found preferable to use a powder, the following may be used by means of Leffert's or other powder-blowers:

Hydrochlorate of morphine	2 ctgrms.	
Sugar of Milk	4 ctgrms.	
Gum Arabic	4 ctgrms	M.

Sig. Use with powder-blower.

W. S.

A CASE OF MASTOIDITIS WITH THROMBOSIS OF THE LATERAL SINUS.*

BY EWING W. DAY, A.M., M.D.

Otologist to the Eye and Ear Hospital, the Charity Hospital and the Children's Hospital, Pittsburg, Pa.

Thrombosis of the sinus or jugular vein, as a complication to purulent otitis media, is always of interest to the otologist. The recovery of these cases are rare, except from the removal of the clot by a successful operation.

The case to which I wish briefly to call your attention is one in which nature successfully accomplished, with some timely assistance, what we failed to do by surgical interference.

On January 3d, I was asked by Dr. Edsall to examine a case under his care in the Children's Hospital. The history given was as follows: Mary F., age 8 years, was admitted to the hospital on Dec. 25, 1896. Since 4 years of age she had had a bilateral otitis media purlulenta, the result of scarlet fever, in early November she was taken sick with "grip," and during this attack the discharge from her ears, the right one in particular, was re-established. Two weeks subsequent to her admittance to the ward, a swelling appeared in the neck upon the right side, a little below the jaw, and beneath the sterno-cleido-mastoid muscle, which in time encroached so much on the pharyngeal space as to cause severe dyspnœa and great difficulty in swallowing, but there was never any evidence of any special inflammatory condition. With the appearance of this swelling the patient's health declined, and the temperature excursions became greater, often reaching 105°, and there were several distinct attacks of convulsions. The swelling in the pharynx became so great that suffocation was feared, and her removal to the hospital advised. While being examined by the house physician, pressure was made over the swelling in the neck, which caused a rupture of the abscess in the pharynx, and a large amount of pus was discharged through the mouth and nostrils. This relieved, temporarily, the urgency of her symptoms, but she soon showed evidence of profound toxemia. At the time I saw the case with Dr. Edsall the patient was emaciated, intensely prostrated, with marked dullness of the intellect, but no delirium. Pupils normal. Pulse about 130 and weak. Temperature during most of the day about 99½, with a sharp rise to 104 or 105 degrees occurring each evening. The former swelling in the neck was at this time almost unnoticeable, but there was considerable induration over its site, which was mistaken for a thrombosis of the jugular. The right ear was discharging a large quantity of very offensive pus. There was no sagging of the roof of the external canal, nor swelling or redness over the mastoid process. Deep pressure failed to elicit any signs of tenderness. From the history given us, and from the patient's condition at this time, we were led to believe that the source of the trouble lay in the mastoid, although almost every symptom of this condition was wanting.

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*Read before the American Laryngological, Rhinological and Otological Society, at its meeting in Washington, D. C., May 3d.

In opening the mastoid, an unusual amount of bleeding was present of a venous nature. The external table of the mastoid was hard and moderately thick. The interior was found in a necrotic condition, filled with pus, and necrosed bone. In the anterior part of the floor of the process a sinus was found leading downward beneath the sterno-mastoid muscle, through which a probe could be passed; thus explaining the origin of the abscess which had formed in the neck. From the amount of venous oozing, and other conditions, it was believed at this time that the lateral sinus and jugular vein must be involved.

The jugular vein was exposed with the intention of ligating it previous to exposing the sinus. While the carotid artery and sheath were easily found, the vein itself was found totally collapsed. The sinus, through which the abscess in the neck had ruptured into the pharynx was also discovered, and a probe could be passed along its course to the middle of the pharyngeal space and upwards towards the mastoid. At this point it was found necessary to abandon the operation on account of darkness, with the intention of exposing the sinus on the following day if the conditions seemed to justify it.

Following the opening of the mastoid there was a decided amelioration in the patient's symptoms, and further interference was delayed. For four days the temperature was only slightly above normal, the pulse and general conditions were markedly better, and larger quantities of nourishment assimilated, but on the 8th the former temperature cycle began again, going suddenly to 104 with increased prostration of the patient. It was then deemed advisable to expose the sinus in the hope of finding the thrombus. This was done on Jan. 10th. The patient's condition at this time was even worse than at the first operation, and the opthalmic examination of the eyes showed a beginning optic neuritis in the right eye. There was also a swollen condition of the right side of the neck which had developed since the first operation. The dressings removed from the mastoid were clean with no sign of pus. A curved flap was turned down over the course of the sinus, and the skull perforated at a point about an inch behind the external canal. The hemorrhage was very great, mostly of a venous nature. Every small capillary seemed to be converted into a large vessel. A scratch of the bone with a chisel would be followed by free oozing of blood. This bleeding was very difficult to control. When the lateral sinus was exposed, its walls protruded into the opening, and it was found to be very tense, though the pulsations could be easily felt, but it did not give the feel to the touch, as though obstructed by a clot or organized mass at this point, but pus was found overlying the dura. The sinus was uncovered in its course forward to the posterior wall of the mastoid, and a small opening discovered which led into the mastoid cell. The bone between the sinus and the posterior walls of the mastoid was cut away in the endeavor to reach the deeper portions of the sinus, at which point it was judged that the thrombus existed. The loss of blood up to this time had been very great. The patient was pulseless, and, apparently, dying; and further procedures had to be abandoned. The wound was hastily packed and dressed, restoratives administered. The patient was left on the table, in the full belief that recovery was impossible. For 24 hours it was uncertain whether or not the patient would rally from the shock. Reaction was slow and the anæmia from the operation was profound. The course of the case for the next 10 days was one of profound toxæmia, the temperature each day going to the neighborhood of 106°, accompanied by sudden drops, sometimes being subnormal, with the pulse almost imperceptible, and respiration very rapid and irregular. There was no distinct rigor preceding these attacks, and consciousness was not lost. Vomiting was absent, except on one occasion, the second evening after the lateral sinus was uncovered, and this was not severe.

Four days after the second operation the swelling in the neck had increased and was opened by Dr. Anderson. A pocket of considerable size was found deep under the sterno-mastoid and posterior to the digastric muscles. This contained a large, partly disintegrated clot of blood and pus. The blood clot showed all the signs of having been formed for a considerable length of time. The carotid artery lay exposed at the bottom of this opening, with its sheath covered with granulations. A probe was passed well up to the region of the jugular foramen, and it in no way communicated with the sinus that was found when first the mastoid was opened. The cavity was washed out and drained. For the next eight days the temperature ranged from 98.8 to 106.2. Depression and anæmia remained profound and nutrition seemed to have failed utterly in spite of the fact that the patient took and retained considerable quantities of milk and seemed always hungry. On January 22d, the temperature came down to 100, and until February 2d ranged from there to 97.4. By the first week in February the patient seemed in a fair way to recover when a new complication developed. This time it was the lungs which were the seat of trouble. The temperature suddenly reached 103. There developed here a profuse expectoration, very disagreeable in odor, and the lower lobe of the right lung was found affected, caused without doubt by a septic infarction. Examination of the sputum for tubercular bacilli gave negative results, although staphylococci, in considerable numbers, were present. Repair of the opening in the mastoid bone was very slow in becoming established, and it was not until the pulmonary trouble had well subsided that active repair began. The pus pocket in the neck also began to fill up, granulating from the bottom, about the same time. From the latter part of February convalescence became practically uninterrupted, the only phenomenon of this period being the supervention of pronounced bradycardia with interruption in the pulse on about every twentieth beat. This persisted, though in a somewhat less degree, up to the time of her discharge from the hospital.

The treatment used in the case, aside from operative measures, was free stimulation with whisky, combined with strychnia and digitalis. At the time the patient left the hospital, the last week in March. the opening in the bone and in the neck were both closed perfectly, there was no discharge from the ear on the affected side beyond a slight moisture, the cough was gone and she had gained several pounds in weight. She was able to be about and play with other children and was in all respects a healthy child. The vitality possessed by the little patient was truly remarkable. At the time of her entrance to the hospital one would have been justified in thinking that she would die from inanition, if from no other cause, yet she was able to pass successfully through two severe operations, attended with considerable loss of blood, and a third slight operation, endure a long period of pus absorption attended with extreme maximum of temperature each day, resist a pulmonary involvement and yet convalesce in about three months. Much credit is due to Dr. Eicher, the interne at the hospital, for his resourceful management of the case in the many emergencies which arose during its progress.

The interesting points presented in this case are:

1st. A mastoiditis, unaccompanied by the usual symptoms of that disease.

2d. The perforation of the bone through to the digastric fossa, and the unusual course taken by the pus to the pharynx.

3d. The perforating of the posterior wall of the mastoid process, producing a localized meningitis and thrombosis, probably at the bulbus of the internal jugular.

4th. An obliterating phlebitis of the jugular vein, which to a great extent protected the lungs and other organs from infection.

5th. The breaking down of this thrombosis, and of the jugular, and the formation of the second abscess in the neck.

6th. A localized septic pneumonia, probably from an embolism carried by some collateral vein to the lungs.

7th. The ultimate recovery of the patient.

Westinghouse Building.

The Penetration of Foreign Bodies Into the Larynx of Aged People.

Dr. G. Ferreri states that the penetration of foreign bodies into the larynx of aged people is due to the following causes: (Archiv. Ital. di Otol., Rinol., etc., No. 1, 1896.)

1. Absence of teeth; the alimentary bolus receives an insufficient mastication and retains an irregular form which is badly adapted to the arched form of the velum palati and the pharynx, and may thus fall into the larynx.

2. Diminution of the sensibility of the pharynx and the larynx. A lack of attention on the part of old persons may permit the fall of the bolus into the larynx without the patient noticing it. The cough, which in healthy persons at once demonstrates this accident, and which also serves to dispel the foreign body, is frequently absent in the case of old persons.

The author advises, in cases of foreign bodies in the larynx, the use of the endo-laryngeal method by means of forceps, when this can be done without too great damage to the tissues. In other cases, a laryngo fissure must be done. Tracheotomy is necessary when the foreign body is in the lower part of the larynx.

CLINICAL REPORTS.

DOUBLE MASTOID DISEASE, FOLLOWED BY ABSCESS OF THE SPHENO-MAXILLARY FOSSA AND NECK, WITH A REPORT OF A CASE—RECOVERY.*

BY J. O. STILLSON, A. M., M.D.

Ophthalmic Surgeon to the Indianapolis City Hospital and City Dispensary; Consulting Oculist and Aurist Protestant Deaconess' Hospital; late Physician to the Indiana Institution for the Blind; Member Indiana State Medical Society and Indianapolis Surgical Society; Member Indiana Academy of Science and American Society of Microscopy; Mississippi Valley Medical Association, Etc., Indianapolis, Indiana.

The question of operative interference in cases of acute middle ear inflammation, with mastoid infiltration and pus-building, is one of interest at all times to those who are familiar with this field.

Opinions are as yet somewhat divided, although the tendency is toward radical measures. There are those who still hold to conservative methods in the majority of cases, while others advocate early operations. Results of numerously reported cases, it seems, in the mind of the writer, will justify a departure from our former timid practice, to the adoption of a bolder procedure in many instances, much to the relief of the patient, and saving of time as well as the preservation of hearing, and even of life itself. The close proximity of the attic to the lower wall of the cerebral cavity, the position of the antrum with its floor so much below the level of the aditus, that pus will remain in its cavity for an indefinite period, the easy gravitation of pus from the cells of the mastoid into the antrum, the corresponding difficulty in the matter of adequate drainage through the tympanum, are or themselves, on physical grounds, arguments in favor of an early external opening. Added to this, the far more important reason of caries of the cells extending backwards toward the lateral sinus, and upwards into the middle cerebral fossa, enhances the benefits to be derived from early liberation of the pus by an opening; while it adds very greatly to the dangers caused by delay, and the unwarranted continuation of "dilly dally" methods, which, at best, in the event of recovery, are almost sure to result in more or less pronounced deafness. Rules as to when to operate, and what class of cases to operate, would be valuable to us, if it were possible to always determine all the factors that go to make up the cases. These are, however, not easy of access. The one general proposition of surgery, that wherever there is pus it should be let out, should be our guide. Every case is a case of its own, and to this fact should be coupled our judgment, in each individual instance, with a leaning rather towards earlier operation, than by delay allowing the patient to pass the border line of safety into the dangerous grounds of meningeal inflammation and sub-dural abscess.

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*Read before the Western Ophthalmological, Otological, Laryngological and Rhinological Association, St. Louis, Mo., April 8th, 1897.

The writer submits a report of the following case as illustrating the position, which he now holds, after some twenty years of practice, during which time he had leaned to conservative methods and operated in many cases reluctantly after he had found milder methods inadequate or dangerous:

Mrs. W., wife of a physician, a lady of middle age, with no tuberculous history, having always enjoyed fair health, was seized with a severe attack of influenza in February, 1896. The attack lasted several weeks, during which time ordinary methods were employed by her husband. The nasal passages had been sprayed out from time to time, and general treatment kept up, the details of which were not inquired into. Suffice to say, that on March 10th, 1896, whether from the spraying or from the renewed onset of the inflammation, it is difficult to say, both middle ears filled up with exudate; hearing ceased, pain followed, with increase of temperature, and the writer was asked to see the case. Status praesens: Membrana tympani both red and bulging, umbus obliterated on both sides, malleus handle apparently depressed lying in a groove caused by the outward displacement of the membranes; pain unbearable, no discharge. Hot fomentations had been in use about forty-eight hours. After syringing out the ears with hot borax water, a free paracentesis was made on both sides, which was followed by the escape of a moderate, sero-sanguineous exudate. Leeches were then ordered to be applied to both sides, to be followed by hot douches and the cautious administration of hypodermics.

In the right ear the effect was all that could be desired, while the progress was slow, and the mastoid was very tender, and at frequent intervals during the next few weeks became threatening; the discharge was kept up until such a time as catheterization could be occasionally done, which was followed by an uneventful recovery.

The left side, however, did not behave so well. The alleviation was only temporary. The bodily temperature arose to 103, pain continued and spread over the temporal, mastoid and occipital regions, with cessation of the discharge, and it was found unadvisable to allow prolonged use of morphia, which only produced fitful snatches of rest, to be followed by beginning signs of delirium, so that on the fourth day (March 13th) the left mastoid was opened, under ether anæsthesia. A large incision was made, drill, curette and chisel, until the whole external wall over the antrum was removed, and cautiously continuing the operation, communication was established with the attic, and another free incision was made in drum membrane behind the malleus handle.

A marked period of relief followed this operation, so that bright prospects for an early recovery were in view. But this was only to last about three or four days. On the 16th there was much pain and an increase of temperature, but no delirium. The seat of pain was now transferred to the zygomatic and upper maxillary regions. Trans-illumination, through the mouth and posterior nares, revealed pus in the antrum of Highmore on the left side. Accordingly, under nitrous oxide gas anæsthesia, the second bicuspid tooth of the upper jaw was removed and with a dental engine and drill an opening was made into the antrum of Highmore, from which the pus escaped in liberal quantities. Progress was now very much advanced, although the patient was emaciated and weak from suffering and poor digestion, until the end of the fourth week from this operation, when another relapse occurred. About this time the discharge in the left ear had ceased, the mastoid opening had filled with granulations, and yet there was much pain and a return of the temperature. The maxillary antrum had been kept clean, as well as the mastoid opening, and the former had continued to discharge. The catheter could be introduced and the drums of both sides inflated, and the hearing was becoming nearly normal again. But on the 10th of April great tenderness and swelling began behind the ramus of the jaw, and all along the anterior border of the sterno-cleido-mastoid muscle. This progressed so rapidly that on the 15th the temperature again rose to 103. Short, broken, wheezy, almost emphysematous respiration appeared and septic pneumonia was feared. Deep down under the sterno-cleido-mastoid muscle fluctuation could, with difficulty, be made out. Accordingly, under ether anæsthesia, a careful dissection was made. The incision extended from the mastoid process, along the border of the sterno-cleido-mastoid muscle about half its length to a point on a line with the level of the thyroid cartilage. The external jugular vein was crossed, not divided but held back and out of harms' way with the retractor. The upper border of the platysma-myoides was cut through where it overlies the sterno-cleido-mastoid. The infra-maxillary branch of the cervico-facial nerve being exposed somewhat diagonally across the wound, it was retracted with a hook, and drawn out of the way. From that point the dissection was continued with the fingers and the handle of the scalpel. A large pus cavity was found just above the neighborhood of the digastric muscle. This was washed out and a drainage tube passed in at the lower end of the opening and brought out at the upper opening immediately behind the mastoid process. Free drainage was now well secured; and from this time on to the close of the case nothing eventful occurred. The daily reports were better, and at the end of six weeks more, recovery was complete.

In this case good hearing was obtained in both ears, and the lady's health now, a year after her experience, is said to be perfect.

The accompanying illustration shows a catgut ligature in the sight of the wound some weeks befote the recovery was complete.

A CASE OF INFLAMMATORY GLAUCOMA OF REFLEX NASAL ORIGIN.*

BY J. ALOYSIUS MULLEN, M.D., HOUSTON, TEX.

Mrs. M. P., white, aged 45 years; weight, 190 lbs.; mother of three children. At the birth of the last child, seven years ago, she had an attack of phlegmasia alba dolens in both extremities.

Several hours before parturition she experienced sudden, intense pain, confined to the right eye; the life of the ophthalmalgia she could not recall; it ended, however, soon after the birth of the child.

After convalescence she observed ptosis of the right upper lid and external squint of the right eye.

Three months previous to consultation she had a return of pain in the right eye similar (?) to the attack some years before.

The pain gradually extended to the right temple and involved the vertex and occiput; *not localized* as in the former attack.

She applied to an ophthalmologist for relief of pain. An iridectomy was attempted unsuccessfully.

The pain increased after the operative interference, but the diplopia had entirely disappeared.

When first seen, the eye presented the following conditions:

Pupil widely dilated, oval in shape, the long axis of the oval vertical. Iris held down by complete posterior synechia, anterior chamber shallow. Tension plus. Lense rapidly undergoing opacification. Ptosis of upper right lid and external squint of same eye.

Projection and perception of light good.

Examination of the right nasal chamber showed occlusion of the middle and superior meatii, due to enlarged middle turbinate. Pain relieved by cocaine applied to hypertrophy.

The enlargement was almost cartilaginous in structure; its removal easily accomplished.

The ablation of the growth permanently and completely stopped the painful seizures. Normal tension returned. Anterior chamber not quite so shallow. Urine negative.

602 Main St.

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*Read before the Western Ophthalmological, Otological, Laryngological and Rhinological Association, St. Louis, April 8th, 1897.

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THE LARYNGOSCOPE,
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EDITORIAL.

GRAINS OF EXPERIENCE.

The present era has been truly termed The Mechanical Age, and even in medical and surgical progress we find this appellation often in practical usage.

The aurist and laryngologist of to-day, be he ever so advanced in methods of diagnosis and therapy, if lacking in skillfulness in the manipulations of his instruments and apparatuses, meets with a very formidable obstacle to success in his practice.

The application of the galvano-cautery in the hands of an experienced operator is a simple procedure, and yet even he must needs exercise a constant care, so that in the removal of the heated wire from the field of operation he does not touch the healthy tissues about the alæ nasi. The result of so slight an accident is scarcely of surgical significance, still it is always a pain in some degree to the patient.

Again, it is self-evident that the hand of the operating aurist and aryngologist should be steady. Here, at any rate, the protest entered against the indiscriminate use of the cigarette, and the constant jarring of the hands that grip the handle-bar of the bicycle as it rattles over the granite pavements, is reasonable and valid.

The areas of the aural canal, of the nasal meati and the laryngeal spaces, are so limited that even with a steady hand application to these parts is not always an easy task.

Then, too, there are little points in the treatment of our patients which require frequent consideration.

If an unruly child or even adult is in the chair for the removal of a foreign body from the ear, where the manipulation of probe, hook or forceps becomes a necessity, the precaution of fixing the head of the patient is never to be overlooked. If, when a sudden jar or pain is felt, the head is suddenly jerked *toward* the operator instead of *from* him, it requires much manual dexterity to prevent a damage by the instrument to the delicate tissues of the ear or even the perforation of the drum.

We are apt to be indifferent to the comforts of our patients even in so small a matter as the spraying of the nasal or pharyngeal cavities, where the solutions reach the delicate mucous membrane *cold* instead of *warm*. The emersion of our spray-tube in a little hot water overcomes this difficulty to a nicety and adds to the comfort of our patient.

Cleanliness is a factor which is highly appreciated by the majority of our patients. A clean napkin, a polished tongue-depresser, a speculum free from the secretions gathered from a previous patient's aural or nasal canal, a head-mirror which is not speckled with the dust of ages, a cuspidor which looks inviting—these are the little things which often contribute largely to our popularity or success.

''Put yourself in his place'' is an axiom which may be well applied to the physician in his relation to his patients.

It may often prove a valuable lesson to practice these little discomforts on ourselves and experience the many sensations, other than delightful, which they frequently produce.

SOCIETY PROCEEDINGS.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

SESSION, THURSDAY, MAY 6th, 1897.

[PROCEEDINGS CONTINUED.]

Simulated Sarcoma of the Tonsil, with Case. By Dr. D. Bryson Delavan, New York.

Dr. Delavan reported a case which is interesting as exemplifying the difficulty of making a diagnosis of malignant disease in this region. The patient asked the removal of a growth in the left tonsil. There was no history of syphilis. Two months before, the tonsil had been inflamed and enlarged, and had finally broken down, one-half of the tonsil being involved. The remnant of the tonsil was indurated, and several cervical glands were enlarged. The patient complained of some pain. The disease showed the clinical appearance of sarcoma.

The fragment was removed and sent to the pathologist, who was at first in doubt and then stated the probability of sarcoma. The entire tonsil was then removed, and again referred to several pathologists, who all reported sarcoma, with the exception of Dr. Hodenpyl. This pathologist stated that the resemblance to sarcoma was striking, but he felt compelled to exclude it on account of the normal size of the tonsil. The accuracy of this report was substantiated when the patient recovered under iodine treatment.

The Reduction of Hypertrophic Rhinitis by Submucous Incision. By Dr. D. Bryson Delavan, of New York.

The reduction of enlarged turbinals by means of the snare or caustics is not conservative, as the mucous membrane is destroyed, and the application is usually ineffective. The swelling may not be due to hypertrophy, but to congestion of the corpora cavernosa. The first object is to reduce the congestion so that nasal breathing may be resumed.

One year ago, he first tried the method of submucous incision, the object being to obliterate some of the blood vessels and reduce the mass in this manner. For this purpose, he prefers the small knife used by ophthalmic surgeons. After cocaine, the point of the knife is passed obliquely as far as possible, and, with a slight, sweeping movement, brought out of the same opening. It is better to repeat this maneuver than to try to accomplish too much at one time. There is little pain or hemorrhage from this operation. It is advisable to keep the parts contracted by means of cocaine for several hours after the incision has been made. Relief is usually prompt, and his cases have all, so far, been without unpleasant results. It is easily applied and causes little irritation.

He does not claim originality for this method, but is interested in knowing if it could be productive of untoward results. He illustrates the advantages of this operation by the report of a case, which had been treated without effect for nasal reflex, which was promptly relieved by this method.

Discussion.—Dr. Wright stated that this method seems to be a valuable suggestion. It breaks up the coats of blood vessels, as in aneurism. As regards the length of time that this operation would give relief, it must be remembered that congestion of the turbinal is frequently secondary to other conditions. It cannot be radically cured, unless the existing causes have been removed. A recurrence is, therefore, no argument against the advantage of this operation.

Dr. Casselberry stated that this treatment appears useful as a temporary expedient in congestion of the anterior or middle part of the turbinal, but in many of these cases, the pathological condition is in the posterior part, which is difficult to reach by this method.

Dr. Norval Pierce, of Chicago, has suggested a somewhat similar method with the addition of applying a small bead of chromic acid, after the opening into the turbinal has been made. Dr. Delavan's paper on sarcoma is a very good lesson. In a case in Dr. Casselberry's practice, a piece of glandular cyst of the larynx was submitted to a pathologist, who reported cystic sarcoma. Dr. Casselberry, thereupon, commenced extensive cauterization to extirpate the growth. A recurrence did not take place. Had this diagnosis been made correctly, the repeated cauterization could have been avoided.

Dr. Wright stated that there is no insurmountable difficulty in distinguishing between a malignant and a non-malignant growth, but the trouble is that most pathologists have no clinical experience. It is important that the pathologist should be made acquainted with all the clinical points of the case, which might prove of value in making his diagnosis.

Dr. Casselberry.—In the cases in which there is a discrepancy between the report of the pathologist and the clinical appearance, they should always be regarded with suspicion.

Dr. Delavan, in concluding the discussion, stated that it is important to use the iodine test in these cases, and to send as much of the growth as possible so as to aid the pathologist in his diagnosis. His patient had been prepared for an important operation, which had been prevented only by the report of Dr. Hodenpyl.

In regard to the operation on the turbinal, which he had suggested, it is a conservative method, as the mucous membrane is not destroyed, and good results are obtained.

A Case of Subglottic Tumor, Causing Great Dyspnoea: Removal by Tracheotomy and Curetting. By Dr. J. W. Farlow, of Boston.

Dr. Farlow reported a case of a woman who had suffered from difficult breathing. She had previously had an operation performed for nasal stenosis from septal obstruction. The physician had afterwards found two subglottic growths, for which he had operated externally on account of the dyspnœa which they caused. A radical operation had not been performed because the growth was supposed to have invaded the œsophagus. Under iodine, the patient became gradually worse.

The case came under Dr. Farlow's observation last January. She has lost 30 pounds; the dyspnœa was marked, although there was no pain. The nasal bone and the lateral cartilages were markedly thickened, which interfered with respiration. The space below the vocal chords was filled with a smooth swelling, appearing to proceed from the posterior part of the trachea, and leaving only a narrow chink for respiration. The cords moved freely, causing the voice to be but little affected. There was no ulceration, pain, or difficulty in swallowing. He did not consider the growth malignant, but more probably an enchondroma of the posterior wall of the trachea.

A low tracheotomy was performed, and the tracheal opening extended nearly to the cricoid cartilage. It was found that the growth originated below the cricoid cartilage and extended downward. The first object was to relieve the dyspnœa, and not to remove the whole mass. The tumor was firm, and it was scraped with a sharp curette, leaving the trachea apparently free. The wound was sutured, and five days later the tracheal tube was removed. The examination showed fibroma.

Enchondromata in this region are rare, there being only two cases recorded. This had been suspected on account of the appearance of the cartilages of the nose. A recurrence is probable, as, undoubtedly, some of the growth was left. It was not vascular, and the firmness suggested fibro-cartilage.

Papilliary Edematous Nasal Polypi and their Relation to Adenomata. By Dr. Jonathan Wright, of Brooklyn.

Dr. Wright read an interesting article on this subject, and supported his statements by a number of cases reported in literature, and some in his own experience. He has already called attention to the fact that true myxomata are never found in the nasal chambers, and that the growths usually called by this name are simply the result of chronic inflammation.

Adeno-Sarcoma of the Nose. By Dr. F. E. Hopkins, of Springfield.

Dr. Hopkins reported a case of a patient of 83 years, who had had relatively good health, and there was no history of cancer or tuberculosis in his family. Since six years there had been an obstruction of the left nostril and free discharge of mucous. The physician, to whom he applied, had torn something from his nostril with forceps, but this did not give relief, and a month later, there was a severe epistaxis and afterwards a second hemorrhage.

When the patient came under observation, there was no pain or epistaxis, the patient complaining only of the discharge and obstruction. The left eye had been somewhat displaced outwards. The septum was pushed to the right, the left nostril being filled with the tumor as far as the vestibule and the choanæ. There was no involvement of the glands. The histological examination made by Dr. Wright gave a report of adeno-sarcoma. These cases are rare. There may be more cases in the future if more careful observations are made.

Dr. Geo. A. Leland, of Boston, reported a case in which there was a gradual obstruction of breathing with recurrent epistaxis. Three months before, some of the obstruction had been removed. On examination, the nasal bone appeared to be raised and loosened by the pressure of the growth, and the right eye appeared to be pushed out. The right nostril was filled with a polypoid-looking growth, which bled easily. The clinical appearance suggested sarcoma. The growth rapidly increased and soon there was a sanious discharge from the lachrymal region.

The tumor, which was supposed to have originated from the ethmoidal region, filled the whole nares. A similar growth developed in the pleura resulting from metastasis of the original growth. Microscopic section showed the tumor to be adenoma with a tendency to sarcoma.

DISCUSSION.

Dr. Swain called attention to the analogy between polypi of the ear and nasal polypi. In aural polypi, the connective tissue aids largely in the production of the growth.

Dr. Wright stated, in regard to aural polypi, that a large proportion present this adenomatous condition. In regard to the change from innocent to malignant growths, pathologists are arriving at the belief that there are certain bacterial bodies in the cells, which are causative factors of malignancy, and that such growths are simply good culture grounds for the organism.

A Contribution to Laryngeal Phthisis. By Dr. T. M. Murray, of Washington, D. C.

Dr. Murray stated that the literature of this subject gives evidence that there is value in surgical interference in this disease. The usefulness of the curette is generally conceded. Spontaneous cure is also not impossible.

Many advocate the internal administration of creosote, but Dr. Stœrk has shown that it is dangerous on account of its effect on the stomach, thus interfering with nutrition. Dr. Murray, however, thinks its use advisable. The curette and lactic acid hold the first place in the surgical treatment. Laryngotomy and laryngectomy are advantageous only in exceptional cases. Of five cases successfully treated with the curette, one was still living six years later. Enzymol seems to have good effects in these cases, and he has recently used it successfully in a large ulcer.

Dr. Newcomb stated that he had frequently used creosote and he found that 35 drops per day could usually be tolerated.

Primary Lupus of the Larynx. By Dr. Emil Mayer, of New York.

Dr. Mayer gave the history of a case which came under treatment July, 1896. A year previously, following a slight cough, the patient had expectorated a wine glass of blood. This hemorrhage occurred daily, and always about the same amount. The hemorrhage then disappeared and the patient complained of no cough or pain. The edge of the epiglottis was ulcerated, tumefied and covered with nodules. There was no history of syphilis. There was a slight consolidation in the apex of the right lung. A diagnosis of lupus was made.

Under treatment, the hemorrhage ceased, the weight increased, and 18 months later, the patient appeared well, the voice and the appetite being restored. The epiglottis was thickened.

The second case has already been reported by Dr. Asch. Two years afterward, only a cicatricial flattening of the epiglottis remained.

The larynx is not as frequently affected as the skin; the larynx should always be examined in these cases. Secondary lupus of the larynx is rare, but primary lupus of the larynx is exceedingly so, but it undoubtedly exists. The tubercular nature of lupus has been so fully established that it requires no further debate. Why its manifestations are so different from ordinary tuberculosis, it is impossible to explain. The peculiar feature of lupus is the small number of bacilli, these being frequently found only after persistent search. It affects the epiglottis by preference, the ulceration causing a worm-eaten appearance, and showing a dead white color on healing. Stenosis is rare from the amount of lupoid tissue or from contraction.

In the early stages, the diagnosis is easy, but later more difficult; the glands may or may not be involved. The course is chronic, but sometimes spontaneous cure takes place. The differential diagnosis may be made from laryngeal tuberculosis by the husky voice, which is not present in lupus. Pain is usually present in tubercular laryngitis, but not so in lupus. In the latter, there is but little cough or expectoration, and but few bacilli. In the former, there is œdema, which is slight in lupus. There is ulceration in tubercular laryngitis, while cicatrices are more frequent in lupus. Lupus differs from syphilitic ulcerations in the clinical appearance, the history, and the fact that lupus becomes worse under iodine. In sarcoma the pain is a conspicuous factor; leprosy in this region is not met with in this country.

The prognosis of lupus is favorable. Surgical measures may arrest or cure the disease. A correct diagnosis is very important. The prognosis as regards life is reasonably good.

DISCUSSION

Dr. Swain referred to a case of lupus of the nose, in which the alæ had been destroyed. The cicatrices could be seen extending from the back of the palate and the right side of the tonsil to the base of the tongue and leading to the epiglottis. Cicatrices were also present in the larynx. The patient, nevertheless, had a good strong voice, and had never complained of sore throat. Tuberculine had been used in this case without success. After each injection, there was a reaction, but no good effects were accomplished.

Dr. Hubbard reported a case in which the only lesion was the destruction of the epiglottis with resulting contraction. There was a tubercular history, however, there having been a tubercular ulcer three years before; the lung was not involved.

Dr. Wright stated that we cannot separate lupus and laryngeal tuberculosis clinically any more than we can microscopically. While laryngeal tuberculosis is usually typical, there are some cases which are difficult to differentiate.

He related a case in which the patient complained of sore throat, cough and hoarseness, with loss of weight. There was no history of syphilis. On examination, the larynx showed a granular appearance with so much infiltration that there was great dyspnœa. In the lungs there was a slight consolidation in the left apex. The case suggested lupus.

With some hesitation he prescribed iodine, which resulted in complete clearing of the larynx. There were tubercle bacilli in the sputum, however, and the case later developed general tuberculosis. Dr. Wright has little faith in the theory of mixed infection, although syphilis may be a predisposing cause.

Dr. J. H. Lowman reported a case, in this connection, which had been diagnosed as syphilis, but which he believed to be lupus. Under specific treatment the patient became worse but improved under Fowler's solution.

Dr. Mayer, in concluding the discussion, desired to know whether, in Dr. Swain's case, the eruption in the nose was secondary to lupus of the face. (Dr. Swain answered in the affirmative.)

While lupus and tubercular laryngitis may be histologically of the same origin, they are clinically different, and also differ in their prognosis. In the latter form, the prognosis is usually fatal, which is not the case in the former. In lupus we also have cicatricial bands, which are not met with in tuberculosis. In the case which he had reported, the destruction was enormous, but the voice was still unaffected.

Four Cases of Sarcoma of the Nasal Cavities. By Dr. J. E. H. Nichols, of New York.

In the first case, the sarcomatous growth was removed by means of the galvano-cautery snare. A recurrence took place and a more radical operation was undertaken, the nose being split in the median line and the flaps laid on the face; the growth was removed by means of the chisel, scoop and the curette. The ethmoidal cells and the sphenoidal sinuses, being also involved, were scraped. A recurrence took place and a more radical operation undertaken, including the removal of the eye. Four months later there was again recurrence. Antitoxin injection was made without result, and four months later the case had a fatal termination.

In the second case, there was exophthalmos and sarcoma of the left nostril. A radical operation was undertaken; a large mass was removed and the cavity curetted. The case eventually proved fatal.

The third case was that of a boy, who was found to have a large mass in the right nostril, the right eye protruding. The mass filled the whole nostril and the naso-pharynx. Examination showed round-celled sarcoma. An operation was refused.

The fourth case was a patient of 17 years, who had had an obstruction of the left nostril for one year, which was found to be due to sarcoma. A radical operation was performed, and the whole nasal cavity, antrum and ethmoidal cells, were immerged into one cavity. Twenty-one months later there was a recurrence, which proved fatal.

OFFICERS.

The following officers were elected: President, Dr. Thomas R. French, Brooklyn; Vice-Presidents, Dr. T. Morris Murray, Washington, and Dr. H. S. Birkett, Montreal; Secretary and Treasurer, Dr. Henry L. Swain, New Haven; Librarian, Dr. J. H. Bryan, Washington, D. C. Council, Drs. D. Bryson Delavan, New York; John O. Roe, Rochester; W. H. Daly, Pittsburg, and Chas. H. Knight, New York.

Nasal and Mouth-Breathing. Dr. R. W. Miller. (*Southern California Practitioner*, May, 1897.)

The author of this paper details the experiments which have demonstrated that nasal-breathing warms, moistens and filters the air inspired. He then points out the responsibility of the general practitioner intrusted with the care of children in discovering the existence of habitual mouth-breathing, and seeing that it is speedily relieved, and thus prevent lasting impairment of other functions than those of breathing and hearing, and often much more important.

F. B. E.

International Congress, Laryngological Section.

At a special meeting of "The Oto-Rhino-Laryngological Society, of Moscow," held on the 21st day of June, 1897, it was decided that a "bureau" should be instituted for the convenience of members of Section XII, of the 12th International Medical Congress (Otological and Rhino-Laryngological Section).

The object of this bureau will be to give all information needed, not only as to matters concerning the Congress, but as to all other matters where our visitors may require assistance or information.

This reference bureau will be open from 7 to 9 p. m., from the 13th to the 19th day of August, in the Doctors' Club (Bolshaya Dmitroffka), and during the meetings in the room of Section XII b. (Laryngo-Rhinology). I. N. Scott, *President.*

WESTERN OPHTHALMOLOGICAL, OTOLOGICAL, LARYNGOLOGICAL AND RHINOLOGICAL ASSOCIATION.

[PROCEEDINGS CONTINUED.]

Second annual meeting held at St. Louis, April 8th and 9th, 1897.

"Epithelioma of the Nose."

Dr. H. W. Loeb, St. Louis, exhibited a patient who had undergone three operations, by Dr. A. C. Bernays, for an extensive epithelioma of the nose.

The point of interest was the direct inspection of the openings of the Eustachain tubes, the salpingo-pharyngeal and salpingo-palatal folds.

"The Function of the Stapedius and Tensor Tympani Muscles."

Dr. Thos. F. Rumbold, St. Louis, read a paper on the above subject. This paper will be published in the September issue of THE LARYNGOSCOPE.

Dr. Goldstein said that he wished to be among the first to congratulate Dr. Rumbold on the originality of many of the points in his paper. Sound is the result of motion, and there is no doubt that tinnitus aurium is sound; hence, tinnitus aurium is the result of motion. The doctor fully concurred in the view that the Eustachian tube was normally closed. The method of differentiation between vascular and muscular tinnitus aurium is entirely original, and the points made deserve the careful consideration of the profession.

Dr. F. B. Tiffany, Kansas City, said that he believed the Eustachian tube was normally open, while one of the functions of the tensor tympani and stapedius may be to amplify sound, he did not think they produced tinnitus aurium, as tinnitus aurium was sometimes present even when the ossicles had been removed.

Dr. George Knapp, Vincennes, Ind., asked why it was quinine sometimes causes tinnitus. The doctor related the history of a case that he had seen in Prof. Politzer's clinic in 1895, who was so greatly annoyed by tinnitus aurium that the professor performed a tenotomy of the tympanum without any beneficial results; later the ossicles, including the stapes and stapedius, were removed and the tinnitus increased instead of decreased, Prof. Urbantschitsch also performed tenotomy on the tensor tympani without any beneficial results.

Dr. Rumbold asked Dr. Knapp what kind of tinnitus these patients had and as to the character of the noises.

Dr. Knapp stated, that the first case was that of the escape of steam; that the second was a "running" noise.

Dr. Rumbold, in reply to Dr. Knapp's criticism, said: that the removal of the membrana tympani could not decrease the tinnitus in the cases mentioned, because this noise was due to vascular caliber irregularity. How can this irregularity of caliber be influenced in the least by drum-head removal, or the removal of the ossicula auditus? Had Dr. Politzer made a differential diagnosis he would not have expected to cause the return of regularity of irregular calibered blood vessels, consequently he would not have expected to have cured his case. Dr. Knapp says that the noise in the ear resembled "the escape of steam," and in the other "a running noise;" this only proves that the noise in the ear was *vascular* and not *muscular.*

He stated that if you have an irregular caliber of the blood vessels in the internal ear, or in its neighborhood, there must be motion of the vessels by the blood in passing through this irregularity, consequently, there must be a sound, and this sound almost invariably resembles the escape of steam, or the rush or running of water. It will *never* resemble a familiar sound—as he has called it, because he can get no better name—such as the sound of a grasshopper, or the tick of a clock, or a cricket sound. These ear-sounds are not and *can not* be formed by the same kind of action that forms the hissing sound of steam, the vascular sound. The doctor repeated that there is one kind of ear-sound due to muscular action, such as a paralysis agitans, and another due to the passage of the blood through abnormal blood vessels, and gave the means of forming a differential diagnosis.

As to the tinnitus occasioned by an over-dose of quinine, he said that quinine produces a trembling of *every muscle* of the body, and that the tensor tympani and stapedius is also sufficiently affected to cause an ear-sound. He had taken an excessive dose of quinine, nearly two drachms; the result was that he trembled and shook like one in a very severe chill for about two hours. He could with great difficulty here common conversation for two days.

"Advanced Method in Teaching the Deaf."

Dr. M. A. Goldstein, St. Louis, read a paper on "Advanced Method in Teaching the Deaf," and supplemented the paper by an interesting, practical demonstration of the method on four pupils of the Sisters of St. Joseph School for the Deaf. (See page 349, THE LARYNGOSCOPE, June, 1897.)

Dr. Goldstein said he took pleasure in presenting these four young girls as representatives of the class to which he has devoted two years' time in applying this system of aural training.

Case I. D. A. C., aged 14. Lost hearing when two years old; cause unknown; no parental consanguinity; no deaf relatives. "When she was first presented to me for examination, the tests indicated an intense nerve deafness; not even the clapping of the hands, or the sounds of the voice or various instruments at close range were apparent to her. The exercises were begun as described. For five weeks there was no response; the pupil went through the exercises with the Sisters or with me daily. During the sixth week the young girl gave the first response, claiming to hear an indefinite sound. It was three weeks longer before she could differentiate vowel sounds, *A* from *O*."

(The doctor here demonstrated the method of calling the various sounds in the ear of the pupil.)

Case II. "This little girl has been deaf since she was three months old. When she entered the class she could hear loud hand-clapping and a very loud call at close range. Let me show you the results of our training." (Demonstration.)

Case III. V. P., aged 11 years. "Deaf since two years of age; cause of deafness unknown. She repeated a few familiar words, such as *mamma*, *papa*, *baby*, etc., when first taken in charge. She now hears almost any easily-sounded word of several syllables, and can repeat phrases and short sentences." (Demonstration.)

Case IV. F. McF., aged 17 years. "Congenital deafness; has two brothers, totally deaf; articulates poorly; tonsillar hypertrophy, faucial and pharyngeal, which, perhaps, aggravates the trouble. However, as there is parental consanguinity, and there are two deaf-mute brothers, we could hardly attribute the cause of the deafness to the tonsillar trouble. This girl heard the clapping of hands; she heard her name, *Fannie*, and a limited number of sounds and noises at close range. She now carries on a limited, intelligent conversation at ten feet range." (Demonstration.)

Dr. Tiffany: "Have any of these patients any disease of the middle ear, or trouble of the membrana tympani?"

Dr. Goldstein: "Yes, and I have no doubt that even greater improvement would be observed, if these conditions received careful attention. However, I wanted to satisfy myself as to the value of this method, so I have attempted no treatment, instrumental or therapeutical."

Dr. Bulson: "Do you ever use an ear trumpet?"

Dr. Goldstein: "That is painful to many of the pupils. Sound transmitted in this manner comes with too much intensity, and easily pains, as most deaf-mutes have a very sensitive, hyperæsthetic condition of the ear."

"To spare the voice, however, I have had an accordion constructed, like that used by Urbantschitsch, supplied with an entire scale of four octaves of single reeds. With this musical instrument I can practice my pupils in pitch and intensity of sound very satisfactorily. Thus, pupils who began with a perception of perhaps only two or three tones, in the course of practice can be educated to differentiate the tones or notes of one or more octaves."

Dr. Dayton: "Have you ever tried the phonograph?"

Dr. Goldstein: No. "I might add here that I am now on the eve of adopting a specially constructed telephone, with a delicate transmitter. With such an apparatus, and proper connecting wires, I can instruct several pupils at the same time, each pupil holding a receiver of his own."

Dr. Suker: "Do you make them associate the sound of the words with the objects designated?"

Dr. Goldstein: "They are taught this in the regular work."

Dr. Fryer: "How often do you go over the same exercise at each sitting?"

Dr. Goldstein: "I take the precaution not to overtax either their patience or the strength of their sensitive auditory apparatus. Usually five minutes is an average drill, and I repeat the same vowels and words over and over again until they can hear them accurately and their responses come quickly."

"In conclusion, I would like to urge upon you, gentlemen, the practical advantages offered by this system. Many of you are connected with institutions for the instruction of the deaf and dumb, and I earnestly hope you will seek an early opportunity to give this system a practical trial, even if only on a few selected cases."

"Hypertrophied Rhinitis."

Dr. W. T. Grove, Eureka, Kas., read a paper on "Hypertrophied Rhinitis."

"Experiments on the Eustachian Tube by Means of the Tongue Thrust into the Naso-Pharynx."

Dr. Hamilton Stillson, Seattle, Wash., read a paper on "Experiments on the Eustachian Tube by means of the Tongue Thrust into the Naso-Pharynx." See page 38, July issue of THE LARYNGOSCOPE.

The doctor demonstrated his method. Dr. Thos. F. Rumbold complimented the author on his investigation, and stated that ever since 1854, forty-three years, he had been disputing and combating the theory that the Eustachian tube was normally open or was open during the act of deglutition. In 1868 and 1872 and several later dates, he had published articles on this subject.

Epistaxis and its Management. By Dr. S. Trask. (Read before the Medical Society of the State of California, 1897. *Pacific Medical Journal*, July, 1897.)

The writer regards as the most frequent site a point on the septum, generally quite anteriorly, just below and in front of the tubercle of Creswell-Baber. That is, at the point of union of the spheno-palatine with the inferior artery of the septum. Silver nitrate, fused on a probe, lightly applied to the bleeding surface is recommended, and if it fails, sub-sulphate of iron, finely pulverized and rubbed into the mesh of antiseptic gauze, cut into narrow strips, and one or more of these pieces carried to the bleeding point.

A still more effectual remedy in the writer's hands is the stronger nitric acid. He chooses, if possible, a moment when the bleeding has temporarily ceased, washes the blood away with a fine spray of 1 per cent. sol. of cocaine, and packs about the bleeding point pledgets of cotton previously soaked in a 10 per cent. solution of cocaine.

In a few moments the cotton is removed and the affected side sprayed with glymol. Meanwhile, some wooden probes (as toothpicks) are prepared by wrapping one end of each with a whisp of absorbent cotton. The patient is then told to take a deep inspiration, and to "hold it." Less than a drop of the fuming acid is taken up on one of the probes and quickly carried to the wound, directing the patient to exhale strongly through the nose. A minute eschar is formed, which drops during the healing—usually in a few days. Where the bleeding is active, and however profuse, several of these acid-tipped probes are inserted into the nose, cut off with strong scissors, just within the ala, and left in position one day or longer, the excess of acid being neutralized by the blood.

Of external medicines, the writer considers opium the most reliable. Of late the chloride of calcium has come into favor, and experiments of Dr. Wright, of Canada, proved that it greatly reduces the blood-coagulation time.

F. B. E.

AMERICAN LARYNGOLOGICAL, RHINOLOGICAL AND OTOLOGICAL SOCIETY.

[PROCEEDINGS CONTINUED.]

Inflammations.

Dr. John A. Thompson, of Cincinnati, said that by intra-tracheal injections we get the direct action of the remedy on the diseased area. There were many proofs that tracheal injections were speedily absorbed, and they had the advantage of not being changed by the digestive processes as they were when taken into the stomach. The cure of a bronchitis by such direct medication, without interfering with digestion or appetite, was a distinct advance in therapeutics. In tuberculosis there was a mixed infection—a secondary infection with the germs of suppuration. A little menthol injected into a trachea would give greater and more prolonged relief than a large dose of morphine, given by mouth. The remedies should be soluble in the vehicle employed, the solutions should not be very irritating, and the drugs so used should be capable of volatilizing slowly at the temperature of the body. He had first become convinced of the great value of this method by observing its excellent results in pulmonary tuberculosis and chronic bronchitis. Where the remedies were not irritating, it was not necessary to use cocaine previously. He used from one drachm to four drachms at a sitting, and ordinarily there was but little coughing or strangling.

Dr. S. E. Solly, of Colorado Springs, said that the use of medicated vapors with the Globe inhaler was a very good substitute for the intra-tracheal injections, if employed with a good air pressure.

Dr. H. H. Curtis said that he had made use of an ordinary Chesebrough muriate of ammonia inhaler, which gave a very soft and pleasant vapor of the muriate of ammonia in combination with some aromatic oil. He also occasionally added a few drops of beechwood creosote to this mixture. For a number of years past he had used iodoform and ether in the same way with much satisfaction in cases of laryngeal phthisis.

Dr. Cline said that he was convinced that he had benefitted many cases of chronic bronchitis and tubercular disease by means of similar inhalations. In this connection, Dr. Cline presented a little apparatus that he had devised for the purpose of warming sprays. It consisted of a tin box in which an incandescent resistance lamp was placed, together with a stand holding six spray tubes. By a proper arrangement of dampers the heat could be very easily controlled.

Dr. Logan said that it was very difficult to get medicated solutions carried into the lungs before condensation took place. The medicament must be suspended in some fine oil, and a very fine nebulizer must be used. By the intra-tracheal method this difficulty should be largely obviated. The syringe should have a sufficiently large barrel to allow of making the whole injection at one time.

Dr. Sprague asked if Dr. Thompson had ever observed any pulmonary complications following the use of these intra-tracheal injections.

Dr. Thompson said that in chronic tuberculosis the symptoms had been aggravated by these injections. They were not tolerated in the first stage of acute bronchitis before there was any secretion, and the injections would cause an asthmatic attack, lasting, perhaps, for several hours. He believed that the same results could not be obtained from inhalations as from intra-tracheal injections. Owing to the rapid condensation of the vapor in treatment by inhalation, only a small proportion of the remedy could reach the lungs. The superiority of the method of intra-tracheal injections was due to the comparatively large dose that could be used. The gradual absorption of this vapor was what gave the prolonged effect of the remedy. A German investigator had shown by careful experimentation that guaiacol was much more efficient when introduced into the system unchanged by the digestive fluids.

SECOND DAY.—MONDAY, MAY 3D.

Electric Illuminator and Aural Speculum Combined.

Dr. J. E. Nichols, of New York, presented and demonstrated the action of a new electric-lighted aural speculum. It consists of a double speculum, the upper part of which contains an electric lamp, and the lower part the illuminating apparatus. A diaphragm extends half way through the lumen of the speculum. The back of the lamp is covered with a polished mirror. The electric light is thrown directly from the end of the speculum, and is focused upon the membrana tympani. The instrument can be adjusted to the head of the patient without difficulty. This allows the operator to use both hands.

A New Mechanical Saw.

Dr. William Scheppegrell, of New Orleans, presented a new saw for use on the nasal septum. (See p. 307, vol. 2, The Laryngoscope.)

X-Rays in Rhinological Work.

Dr. Scheppegrell said that he had been experimenting with the X-rays for the past few months, and had not been impressed with their value in his particular line of work. He had been able by their aid to see the condition of the root of a tooth, and whether or not the antrum were filled with pus, but the general results with them in the antrum had not been good. He exhibited an X-ray photograph in confirmation of what he had said.

Vibration Figures Produced by the Human Voice.

Dr. H. Holbrook Curtis, of New York, said that Mrs. W. Hughes, in 1885, in London, first made experiments having for their object the demonstration of the vibrations of the human voice on stretched membrane. Figures were made in this way, not only with powders, but with pigments. These pigments would shoot and interlace and produce the most beautiful forms and variations of colors. By using a square instead of a circular bowl for the membrane, the serpent forms were produced.

Dr. Curtis presented pictures illustrating what he had accomplished in this direction. He had taken care to see that each note produced a certain definite figure. Slight variations in the timbre, and overtones would produce slight variations in the figures. In explaining the apparatus, he said that it took weeks to get the India-rubber diaphragm in a condition to respond delicately to the notes produced. Equal tension could only be secured by marking a small circle on the rubber, and then stretching the rubber in accordance with this outline. After having done this, the rubber should be daily, or oftener, excited to vibration by gently tapping or rubbing it. The pictures were as exact representations of the various tones as were the notes of different tuning-forks. Dr. Curtis, by means of a series of photographs of these figures, pointed out the relationships between the various tones and the construction of the chromatic scale.

Electric Saw.

Dr. F. C. Cobb, of Boston, presented a new electric saw. This saw only works when the little finger is pressed upon a button. He claimed that it was simple, durable and easily controlled.

Labyrinthine Phenomena Dependent upon Middle Ear Disease and Their Relief by Local Treatment.

Dr. Edward B. Dench, of New York, said that in the class of cases under consideration, physical examination would reveal a considerable retraction of the drum-membrane, and sometimes slight congestion of the manubrial plexus and peripheral plexus. The calibre of the Eustachian tube was slightly reduced, and the air entered the tympanum on catheterization, but produced a rough sound indicative of thick mucous adherent to the wall of the canal. Quite frequently the inflation caused a moderate amount of vertigo. There was often slight temporary improvement after the inflation, lasting a few hours. Sometimes rarefaction of the air in the middle ear would cause a concussion; the ossicular chain would be displaced inwards with considerable violence, and the stapedius and tensor tympani muscles being unable to take up the sudden pressure, the result would be concussion and trauma. This condition was found most frequently in neurotic persons. The fact that the functional examination showed no interference with sound conduction did not affect the value of this examination; it pointed out a hyperæsthetic condition of the apparatus. Treatment should be instituted early. These cases would often prove misleading unless the appearance of the drum membrane, the condition of the Eustachian tube, the history of the case and the result of the functional examination were all considered.

Dr. Snow said that about a year and a half ago a patient had come to him in whom the hearing in one ear had been nearly destroyed. The bone conduction was so much impaired that he looked upon the case as one of labyrinthine trouble. The other ear was the seat of considerable catarrhal disturbance. A very unfavorable prognosis was given regarding the poorer ear. He treated the nasal passages, and then turned the case over to an assistant. About six months from that time the lady returned to him with very good hearing in the bad ear. This had led him to question very much the original diagnosis.

Dr. Holt said that ten or fifteen years ago he had made some examinations into the nature of boilermakers' deafness. His investigation led him to believe that it was untrue that some people could hear better in a noisy than in a quiet place; it was an apparent condition only. Dr. Roosa had taken exception to this opinion, and had claimed that with a given amount of deafness, if the tuning-fork were heard longer by air than by bone, it was indicative of labyrinthine disease. He had met with people who could hear the tuning-fork longer by air than by bone, and, after treatment, this condition would change about. He had been unable, therefore, to deduce any rule bearing on this point. He had never found any person who seemed to hear better in a noise, and Dr. Roosa had been unable to fortify his position by many cases.

Dr. Dench agreed with Dr. Holt's remarks regarding hearing in a noise. It seemed to be true, however, that in cases in which the middle ear was involved that there was paracusis, and where the middle ear was not involved, paracusis was not present. With reference to the reversal of bone conduction, he would say that many mistakes had been made in that. The point at which air conduction became greater than bone conduction in cases of defective hearing depended entirely upon the degree of deafness. If the hearing were slightly impaired, bone conduction would exceed air conduction for only the lower notes of the scale. The test should be made through the entire musical scale—at any rate, from 128 to 512 vibrations per second.

Dr. Scheppegrell agreed as to persons not hearing better in a noise, but undoubtedly they perceived sounds better. He had tested this in railroad cars, and had come to the conclusion that deaf persons very quickly became proficient in lip-reading. When talking in a noisy place, one enunciated more distinctly, and hence, the lip-reading was more easy.

Headaches from Nasal Causes.

Dr. Sargent F. Snow, of Syracuse, said that in 1894 he had published, in the *New York Medical Journal*, a paper on this subject, and at that time the literature had been quite meager. Dr. Harrison Allen had published perhaps the first authoritative paper on the relation of headaches to intra-nasal conditions. Dr. Hack, of Freiburg, seemed to be the pioneer in Europe to recognize that headaches were sometimes due to nasal conditions. The speaker said that he had selected from his cases, thirty of headache that had been referred to him by other physicians, and which had proved to be due to nasal causes. Sixteen of these were treated between 1891 and 1894, giving three to five years in which to judge of the results; ten of them showed 90 to 100 per cent. relieved of their headache. The youngest patient was 17 and the oldest 65 years of age. A large number were females; 60 per cent. were over 40 years of age. Of the 16 who received a full operative course, 90 to 100 per cent. reported improvement from the treatment. Operative work gave the quickest and best results. A little more of the offending overgrowth should be taken away than was necessary to relieve the pressure. The theory of headaches being due to stasis was supported by several eminent authorities, and should be given due weight. He was of the opinion that the recurrent attacks were due to the irritability of the nasal membrane, and recurring pressure on sensitive points. The relapses might be due to stasis. If stimulating applications were given once or twice a week, these patients remained comfortable. The best method was to spray the parts with iodol and ether (three grains to the ounce). There was a certain number of cases that could be successfully treated by relief of pressure contacts in the nose. About 70 or 80 per cent. of cases of hemicrania were due to removal causes located in the nasal passages. On examination, a bluish-red, relaxed appearance of the membrane would indicate that at times there were points of pressure. These cases did not require operative interference, but certain changes in the habits of life. About 90 per cent. could be relieved quickly by cleaning out the nostrils, using a spray of cocaine and following this by the iodol application.

Dr. W. C. Phillips asked if Dr. Snow had taken pains to find out if there were any definite symptoms which were characteristic of intra-nasal pressure.

Dr. H. H. Curtis said that he would be loath to have the statement go forth from this society that for chronic stenosis of the nose cocaine spray should be employed. In 1893 he had read a paper in the New York Academy of Medicine, comprising seventy cases, showing the disadvantages of cocaine, even when used in very dilute sprays in the nose. He would also protest emphatically against the use of menthol in the nose, for anything which would in this way reduce the turgescence and bring about a vaso-motor paresis would eventually make the condition much worse than at the beginning. It was becoming very common for people to use these sprays and applications, and they were leading to bad results and were exceedingly unscientific.

Dr. Cline said he would endorse what had been said by the last speaker. He could recall in his own practice three or four cases in which the cocaine habit had been established in this way. Among these patients were two physicians, one of whom was already in an insane asylum.

Dr. Root said he desired to add his testimony regarding the use of cocaine. He was reminded of a man who consulted him a year or two ago for exostosis of the nose, but who had failed to keep his appointment to have it removed. On his return the man was found to be addicted to cocaine. Dr. Root said that he never allowed a patient to use cocaine himself, and personally never used it in the fauces, believing it to be dangerous and valueless. He thought that the rhinologists sometimes went a little too far in their enthusiasm. If a case presented a marked exostosis, or a hypertrophied turbinate, causing marked nasal obstruction, it should be operated upon—in other words, the main point was to operate so as to secure nasal breathing. However, it should be borne in mind that in doing this we should not destroy tissues put there by nature to perform a certain function. The nose was very tolerant of interference, yet it had been terribly abused in this respect.

Dr. Logan said that he had been a great sufferer from headaches. On relieving the stenosis of the upper nasal cavities the headaches had disappeared. In his opinion these headaches were due to improper drainage from the upper cavities and accessory sinuses.

Dr. Joseph A. White, of Richmond, said in his article, entitled "Nasal Reflex Neuroses," published in Burnett's System of Diseases of the Ear, Nose and Throat, he had given the entire literature of the subject of headaches of nasal origin. Headaches, he said, might result from any form of contact in the nose, but chiefly from contact of the middle of the septum with the turbinal. He had known nasal headaches to occur in cases in which there was no nasal obstruction whatever. Neuralgias of the first and second branches of the fifth nerve were particularly common from nasal conditions. He was satisfied that any contacts in the upper portion of the nose were likely to result in headache, whether or not they were sufficient to materially interfere with drainage.

Dr. W. H. Daly said that the fact should not be lost sight of that carbolic acid is a most valuable local anæsthetic. A solution of two to five grains to the ounce would answer for the nose. We had, as a profession, been led astray by the use of cocaine—indeed, he was inclined to think that cocaine had proved to be more a curse than a blessing. He had never used cocaine to any great extent, for he had long appreciated the valuable anæsthetic and antiseptic properties of carbolic acid.

Dr. Myles said that the paper under discussion had brought out some very salient points in regard to headache, yet he thought most those present would agree with him that nearly all middle turbinates were in contact with the septum; hence, this did not constitute any reason for operative interference. He had long ago noticed that the continuous application of cocaine for a number of hours produced a peculiar vaso-motor paralysis, and the turbinates became passively congested. From one or two applications of cocaine, at intervals of a few days, he had never seen any bad results. In the first few hours of an acute rhinitis, cocaine acted admirably, if only applied by the physician. He never allowed the patient to use it, except for a few hours after the application of acid. He had been looking for ten years for a case of pure and simple cocaine habit—in other words, a person who did not use either morphine or whisky also.

Dr. Snow, in closing the discussion, said that he had intended to convey in his paper the idea that cocaine should be used only preliminary to the iodol and ether spray, and he would never be guilty of prescribing a cocaine spray for the patient. The good result following the iodol and ether spray was much more lasting than from cocaine. Nasal headaches were usually neuralgic or hemicranial in their character. We should not be satisfied with simply securing good nasal respiration; we should secure a free passage to the upper portions. It was true in many cases that the middle turbinate pressed against the septum without causing headaches, yet if such a condition existed in a neurotic subject, pressure at this point with a piece of cotton should be sufficient to excite great pain.

Operations on the Drum, Membrane and Ossicles for Improvement of the Hearing.

Regarding the results of this operation, Edw. S. Clark, in the *Pacific Medical Journal*, states that in no case has he operated when the patient was able to carry on a conversation at a greater distance that twenty centimetres (8 inches).

In twenty-six cases, after operation, hearing was: In one case six metres; one case, five metres; two cases, three metres; four cases, one to two metres; ten cases, slight improvement; six cases, no improvement, and in one case the patient lost what hearing he previously had.

F. B. E.

Mississippi Valley Medical Association.

The next meeting of the Mississippi Valley Medical Association will be held in Louisville on October 5, 6, 7 and 8, 1897.

All railroads will offer reduced rates.

The President, Dr. Thos. Hunt Stucky, and the Chairman of the Committee of Arrangements, Dr. H. Horace Grant, promise that the meeting will be the most successful in the history of the Association, and this promise is warranted by the well-known hospitality of Louisville and Kentucky doctors.

Titles of papers should be sent to the Secretary, Dr. H. W. Loeb, 3559 Olive street, St. Louis.

THE

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ORIGINAL COMMUNICATIONS.

DEVIATED SEPTA IN EAR DISEASES, WITH A NEW OPERATION FOR THEIR CORRECTION.*

BY DR. J. OSCROFT TANSLEY, NEW YORK.

In the Spring of 1876, Cornelius R. Agnew, whose memory I revere and whose precepts I find influencing me more than any other medical associate, gave me the care of his ear patients at Manhattan Eye and Ear Hospital, with strict instructions that I should pay close attention to, and treat, the nasal and naso-pharyngeal difficulties which I should find complicating the ear affections. These instructions and the subsequent advice and suggestions in individual cases began my study of the relations of the diseases of the nasal and tympanic cavities.

I early recognized the importance of deviated septa in causing hyperæmias, congestions and acute processes, and later, hyperplastic and thickened conditions of the mucous membrane of the drum-head and tympanic cavity, simply by their mechanical impediment to nasal breathing and nasal clearings; and I have upon my books the names of patients as far back as 1877, the convexity of whose deviated septa I attempted to, and in some cases did, remove by means of a bistoury, much to their relief and improvement.

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*Read before the American Otological Congress, Washington, D. C.

In talking these cases over with my good friend, Dr. Bucklin, of New York, he suggested sawing these convexities off, and for several years we did this operation, by using an ordinary jeweler's saw, with a hand-vise fastened to its proximal end to answer as a handle. From this crude instrument grew the Bucklin saw, than which there is to-day none better.

As I said above, deviated septa affect the ears solely in a mechanical manner, in fact, all nasal troubles affect the ears in the same way. The upper part of the nasal cavity may have polypi, hypertrophies, etc., but if the lower portion, or *drain portion*, of the nose is clear and unobstructed, the ears are not affected by these conditions.

The rhinologists have placed considerable importance upon pressure between the superior turbinated and septum, but after twenty years' observation of these cases I cannot see that it affects the ears in the slightest by its absence or presence, although it may be a factor in the causation of ethmoidal or frontal disease.

We, as otologists, have simply to look for perfect nasal drainage, ethmoidal and sphenoidal disease; posterior hypertrophies, naso-pharyngeal and pharyngeal troubles.

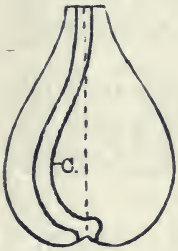
Deviated septa are among the most troublesome difficulties that we have to meet, and are found of varying degrees and importance. Some are so slight that a few horizontal cuts with a saw, antero-posteriorally, is all that is necessary to produce the required contraction of the convex surface; others have to be sliced off with the saw and by hand, in a more or less radical manner, always cutting from below upwards.

One little detail which is not always thought of by operators in these cases, is to avoid union between the cut surfaces and the opposite turbinate surfaces; something must be used to separate the two surfaces, else bridges will be formed which have to be removed later, and which also prevent the contracture which we desire to obtain, to draw the septum back into the perpendicular plane.

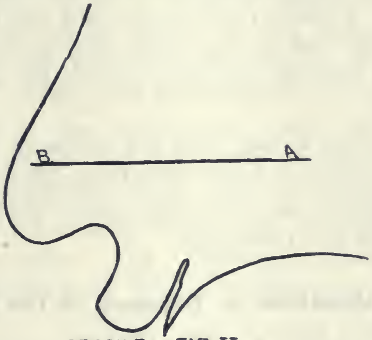
Some do not use anything, others use cotton or gauze, others rubber tubing or pieces of cork whittled into the desired form. Some think that pressure is necessary to get the septum back into its place; but the fact is that pressure cannot be borne and should not be used because of danger of affecting the nutrition of the parts, and causing necrosis and an opening into the fellow nostril. I have used for some time the Goodwillie nasal tubes and am perfectly satisfied with them, but never use them sufficiently large to cause pressure, and lately I am having them made with the upper edge prolonged by a fin of rubber to separate the higher portions where that is necessary.

There are other cases in which the septum is so far deviated to the one side that the cavity is nearly or entirely closed. These are the cases which have caused me the greatest annoyance, and I have done all the operations which I have seen or heard described. I have broken them up forcibly when the patient was under ether, and splinted the broken septum, boney and cartilaginous, in every way that has been suggested, with cork or rubber splints made purposely, rubber tubing and gauze packing, gold and silver pins, etc., too numerous to particularize or even name, because they have proven entirely unsatisfactory to me in every case. In fact, I at one time gave up operating upon these excessively deviated septa, and contented myself by getting a free or freer passage by removing the inferior tubinated bone in its entirety by sawing close to its attachment in the anterior three-fourths, and cold-snaring the remaining quarter.

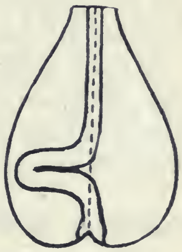
About four years ago I perfected an operation which I have done several times in these cases of excessive deviation, and each time with satisfaction to the patient and to myself, and that is the operation suggested in the title of my paper. It is done at two sittings, about a week or ten days apart. I have always done it under cocaine, as I prefer this course in all nasal and naso-pharyngeal operations, as being more safe than anæsthesia.



DIRECT VIEW.
FIG. I.



PROFILE,—FIG. II.



DIRECT,—FIG. III.

The operation is begun by making a horizontal cut with a Graefe knife through the mucous membrane and perichondrium on the *concave* side of the septum at *C* in Fig. *I*, and from *A* to *B* in Fig. *II*. It passes as far back as may be necessary and comes forward to the muco-dermal line. If the parts are well cocainized there will be but little hemorrhage after the cut is made; then the mucous membrane is carefully dissected upward and downward from the cartilage and vomer if necessary. This is done more easily than one would imagine, and I have always found that a strong and broad Graefe's knife which was dull was the best instrument to use.

When the dissection has been fully made, then the septum is forcibly pushed toward the concave side, the upper portion downwards, and toward the concavity, and the lower portion upwards and to the concavity, and after being manipulated and pressed as described, it is held in its new position by antiseptic cotton or gauze until the septum assumes the appearance or situation as seen in Fig. *III.* The two denuded surfaces of the septum are brought into close apposition as the drawing shows, and the mucous membrane hangs rather redundantly upon the previously concave side.

The manipulations of the septum are done with a strong probe or handle of a scalpel, or anything which is strong or smooth, for it is not our desire to break or injure the septum in any way, and for that reason a forceps must not be used.

To retain the septum in its new position until union takes place, I have found the best is cotton rolled upon a square aluminum probe and thoroughly soaked in Panas solution, and smeared and covered lavishly with antiseptic vaseline.

The dressings are not disturbed until union has taken place, which is usually in ten days or two weeks, and it has been my habit to spray the parts gently once daily, and a number of times during the day to have a mild antiseptic solution dropped into the nasal cavity and upon the dressing. Usually I have employed the Panas solution for the purpose. At the end of two weeks the dressings are taken out and the projecting spur is removed, and treated as is usual in the more simple cases.

In those cases which it has been my pleasure to operate in this way, the finality was that it would have been difficult to imagine that there had been much of any deviation ever existing in the case, so thorough and perfect was the result.

Goutiness in its Relations to Diseases of the Ear. Dr. A. H. Buck. (*Medical Record*, May, 1897.)

Cases are cited in which the diasthesis was observed manifesting itself in the ear. Calcareous deposits are frequently seen in such instances. Errors in diet bring about aural symptoms, which improve under dietetic management. Severe pain is at times complained of, without much local change (microscopically).

In these cases the author has found dilated and therefore paretic blood vessels, retarded circulation, escape of the watery elements of the blood, both upon the free surface and into the interstices of the tissues, proliferation of the cellular elements of the connective tissue stroma, and the swelling or increase in bulk of the tissues thus affected. M. D. L.

A NEW OPERATION FOR THE CORRECTION OF DEFLECTIONS OF THE NASAL SEPTUM.

BY E. B. GLEASON, M.D., PHILADELPHIA.

In THE LARYNGOSCOPE for November, 1896, was published a brief description of "A New Operation for the Correction of Deflections of the Nasal Septum." Although the operation seems simple enough and requires less than two minutes time for its successful accomplishment, by one familiar with the details of the procedure, yet it seems that a few more words, as regards minor details, and the complications liable to occur in difficult cases, are necessary in order to secure the uniform success that operation is capable of yielding. One of my correspondents, after performing the operation, had the misfortune to find that the septum was not only not straight, but that the wound made by the saw had failed to unite. In reply to his letter, I advised that he do a secondary operation, using sufficient force to fracture the upper portion of the tongue-shaped flap, and carrying his finger far back into the septum to fracture the bony part of the septum posterior to the saw-cut, so that all portions of the septum would be in the median line when his finger was withdrawn. I also advised that the Allen's tube, which I sent him, should be dropped into the fossa after the operation, and that the patient should wear it as long as there was any danger of a reproduction of the deformity. The following extracts from a letter, subsequently received from this gentleman, are interesting in this connection:

"I did it (the operation) one month ago to-day, and to-day the result is as near perfect, I believe, as is possible. Breathing normal and very free on both sides, and more so on the formerly obstructed side." * * * "The septum is firmly attached to the floor of fossa, and on the left (originally unobstructed) side, as far back as two-thirds of length of fossa, a perfectly plain vertical surface." * * * "I beg to call your attention to the contrast between your article in THE LARYNGOSCOPE and your letter, from my point of view, and especially from that of the general practitioner, very many of whom are subscribers. I believe your operation, as described in your article, is in danger of being damned by such results as that of my first operation. I am a fair nasal operator; have done many deflection operations by older slitting methods. If, then, your letter was needed to save me from a permanent failure, be assured there are many who will get in the same fix." * * * "In short, I sincerely trust you will write, before long, another article, going more into details; describing possible difficulties and complications, always bearing in mind that you are to write down to a class of men, who, not being within sound of your voice, or in sight of your manipulations, can easily misunderstand and make errors of omission." * * * "I have learned by an extra difficult case, aided by your kind advice, how to succeed with what I now know to be by far the best operation for deflection I have ever tried."

The operation referred to above is, briefly, as follows: After thorough cocainization, the obstructed naris is displayed by means of the writer's self-retaining speculum, which has the advantage over most others that it is in most noses absolutely self-retaining, and the operator is not embarrassed by having it fall upon the floor from time to time during the operation. A straight Bosworth saw is introduced into the naris, and, being held perfectly parallel to the septum, a saw-cut is made upward at a slight angle through the septum so that the deviation, be it great or small, is surrounded by a U-shaped incision that entirely, except above, surrounds the deviation and extends completely through the septum. The deviated portion of the septum now hangs down as a tongue-shaped flap, being supported only above. The deviated portion of the septum is now thrust through the hole in the septum, which it covers, by means of the finger-tip. A tube, or other support, is slipped into the formerly obstructed naris to guard against accidents, and the operation is complete.

The saw that I use for the operation is of the ordinary Bosworth pattern, except that the handle is straight, *i. e.*, has no nasal angle. The blades have become somewhat thin as the result of having been many times repolished and sharpened, as it is necessary to have the saw as sharp as possible in order to perform the operation quickly. It is necessary that the saw should be narrow in order to be able to work under obstruction that reach nearly to the floor of the nasal chamber, and thin, in order not to remove too much tissue in making the saw-cut.

The tongue-shaped flap is not only thrust through the hole in the septum, but the finger-tip, in doing this, should be carried well through the opening in the septum and upward in such a manner as to bend the upper portion of the flap at an acute angle. If the parts are bony the bone will be fractured with an audible snap. Under these circumstances the resiliency of the septum is completely destroyed, and probably no support whatsoever will be required to retain the septum in the median line during the healing process, because fractured bone remains in the position in which the operator's finger left it. Out of the fourteen cases upon whom I have now operated, this happened in two; and although a tube was left in position over night and the next day, as a matter of form, it was after that time withdrawn, and not reinserted, the formerly obstructed nasal chamber being at all times since the operation somewhat the wider of the two. In cases, therefore, in which much of the bony part of the septum is involved, the operator should be on his guard lest he make the formerly obstructed naris too large, for there is little if any tendency for the former deflection to reproduce itself, and the septum will probably remain exactly in the position in which it is left at the conclusion of the operation.

When the upper portion of the flap consists entirely of cartilage it is very difficult to fracture it and to completely destroy its resiliency. Generally, however, at least the posterior edge of the flap is bony and can be fractured, and if the cartilage be bent at a sharp angle its resiliency will be lessened; but such cases will require some support during the healing process and a tube should be worn for some time afterward.

If the saw, while cutting upward, is not held perfect parallel to the septum, it will readily be seen that the saw-cut will pass through the posterior portion of the deflection rather than around it. Under such circumstances, when the tongue-shaped flap is thrust through the hole in the septum, the posterior edge of this opening will project into the obstructed naris as a sharp ridge. Before withdrawing the finger from the obstructed naris it should be carried well back beyond the posterior border of the saw-cut in order to detect such a ridge if it be present. If found, it should be fractured or dislocated and the parts brought into the median line. Ordinarily, this can readily be done with the finger-tip, but it is well to be always provided at such operations with a pair of Adams' septal forceps to be used if necessary. The writer remembers to have only had occasion to use this instrument on two occasions; all of the fracturing and dislocating of the parts that appeared necessary having been readily accomplished with the finger-tip, and the number of his operations for deflected septum, by various methods, must have numbered at least 150.

When the deflected septum has formed an adhesion to the lateral wall of the naris, it will be found impossible to thrust the tongue-shaped flap through the hole in the septum with the finger-tip until the synechia has been divided. This should be done with a pair of stout scissors, the saw or some other suitable instrument. But one of my fourteen cases presented a complication of this character.

It will be noticed that in sawing upward around the deflection that an opening will be made in the septum whose edges are necessarily beveled, especially below, toward the obstructed naris, so that when the tongue-shaped flap is thrust through this opening the larger side of the flap will be brought into contact with the smaller side of the opening in the septum, and to a certain extent be prevented from returning into its original position. As the result of my earlier operations, I was led into the error of supposing that this beveling of the edges would be sufficient in the majority of cases of rendering all the support to the flap in its new position that was necessary. It will be noted also that when the flap is thrust through the hole in the septum that the surfaces of mucous membrane are brought into contact about the opening, and theoretically, at least, they should not unite. As a matter of fact, however, they will do so, probably because the epithelium quickly exfoliates from the inflamed surfaces in contact with each other; after which they unite. Anyone who has had much to do with the treatment of nasal synechia will understand how readily this might take place. In my first operations, I was very careful to denude perfectly the surfaces that were to come into contact with each other, but in my more recent ones I have not been so careful, and the result, invariably, has been perfect union. The edge of the opening in the septum, and that of the tongue-shaped flap, may be readily denuded by thrusting the mucous membrane aside with the saw-tip at the time of the operation, or it may be removed at a subsequent period with Politzer's small, sharp ring curette, found in most cases of ear instruments.

The saw-cut through the septum, ordinarily, occasions somewhat free hemorrhage which, however, generally ceases as soon as the flap is thrust through the opening in the septum and the tube introduced. In one of my cases this did not take place and blood continued to flow freely from the formerly obstructed naris. The hemorrhage ceased quickly upon the introduction of a plug of cotton saturated with peroxide of hydrogen. This is a most efficient method of controlling nasal hemorrhage from any cause, and is extremely useful because of the quickness with which the necessary maneuvers can be executed. A mass of absorbent cotton, sufficiently large to completely fill the nasal chamber, and extend from the anterior to the posterior naris, is wrapped loosely about a probe and carried, dripping with peroxide, into the bleeding naris. As soon as the cotton is in position, the probe is quickly withdrawn and the finger pressed against the plug to prevent its being forced out by the liberated gases. In a moment or two the pressure of the finger may be replaced by absorbent cotton, packed into the anterior naris in such a manner as to hold the first plug in position. The effect, in some cases, is almost magical, hemorrhage ceasing at once. The manner in which the peroxide acts may be demonstrated by adding a small quantity to some blood in a bowl. At once a clot is formed which occupies many times the space of the original bulk of the blood. If necessary, both nares could be packed in this manner almost instantly, but ordinarily the pressure of the tube is sufficient, if the bleeding does not quickly cease spontaneously, as it generally does, after the introduction of the finger.

Many of the cases operated on will require a certain amount of support within the formerly obstructed naris during the healing process. In two of my cases this was given by means of a steel pin thrust through the septum from in front and retained in position for ten days. In one, the support was by means of a little mass of iodoform gauze placed in the position where it would yield the best results, and at the same time enable the patient to breathe around it. The presence of any substance, no matter how soft, which is large enough to completely obstruct the breathing through that side of the nose, becomes almost intolerable within a few days. As already mentioned, in two of my cases, any form of support was entirely unnecessary and practically not employed. As a means of support after the operation, my decided preference is for the tube invented by Harrison Allen, of this city. It is made of plated brass and is not perforated, is oval in shape and about 2 inches in length, so that it extends, when inserted within the nose, from the anterior to the posterior naris. The proximal extremity of the tube is slightly larger than the rest in its vertical diameter, and bent downward to correspond to the shape of the vestibule of the nose. The operation, under any circumstances, should be done in such a manner as to allow this tube to be simply dropped into the formerly obstructed nasal chamber. If any force whatsoever is required to insert it, the operation has not been properly done and the finger should be reinserted into the naris and the obstruction removed, for the tube is not designed to force the parts into a normal position and retain them there, but simply to yield a little gentle support during the healing process and prevent the parts already in position from being displaced. It is best to allow the tube to remain in position for the first forty-eight hours after the operation, spraying an alkaline solution through it in order to keep it free from mucous. At the end of that time the tube should be removed and cleansed each day and the condition of the septum inspected. At the end of a week or ten days the patient can ordinarily remove the tube from his nose and replace it, and, if he comes from a distance to have the operation performed, may be allowed to return home after being instructed in the manner of cleansing his nose with an atomizer containing an alkaline solution, and the use of an atomizer containing aboline, in each ounce of which is dissolved 2 grains of menthol and 10 of camphor. It will, however, probably be safest for him to wear the tube constantly for a week or ten days, except when it is being cleansed, and for half an hour each day for about a month longer, at the end of which time any danger of the septum returning, even partly into its old position, will probably have entirely disappeared.

In only two of my fourteen cases, I think, was it necessary, three or four months after the operation, to remove with the saw a small mass of cartilage produced by the overlapping of the flap in the formerly unobstructed nasal chamber. In these cases the amount of the redundancy of the septum was very great. It will be noticed that no matter how great the redundancy of the septum be, this manner of operating provides for it, both in a vertical and in an anterior-posterior direction.

Chronic Suppuration of the Maxillary Antrum. B. J. Baron, M.B., Edin. (*Bristol Medico Chirnog. Journal*, March, 1897.)

Purulent discharge from the nose is a usual symptom accompanying this disease. Neuralgic pains are also present. Some of the characteristic symptoms mentioned are (1) unilateral discharge, except in double-sided antral empyema. (2) It is pus unmixed with mucous, and is commonly of canary-yellow color and quite opaque. (3) It is intermittent in its flow from the nostril, usually most marked during the morning hours. When pus is seen flowing from above as well as below the middle turbinated body, disease of the anterior ethmoidal cells complicates the antral suppuration. Cleavage of the middle turbinated body is also seen with antral movement. Polypi are quite common under such conditions.

Transillumination is considered a serviceable method for arriving at a diagnosis. The author employs the Lichtwitz trochar and cannula as an exploratory measure, and is well satisfied with his results by employing the time-honored practice of drilling through the alveolar border, or above it, as the subsequent treatment.

M. D. L.

THE RELATIONS OF NASAL TO MENTAL DISEASE.*

BY DR. D. ZIEM, DANZIG, GERMANY.

The relations of nasal to mental diseases have scarcely received their due consideration in medical literature. The subject in question refers not only to suppuration of the nose and its accessory cavities, with consequent invasion of meninges and brain due to contiguity of tissue, but also to disturbances of circulation arising from diseases of the nose; also to lesions within the cranium. Here, too, we may include epilepsy accompanying nasal diseases, transitory delirium following intra-nasal operations, "aprosexia," so-called, and disturbances of memory occurring in the course of nasal lesions (see Prof. Guy's communication); likewise central troubles, with scent impairment, as Anosmia, Parosmia, etc. Here, also, we may classify certain irregularities in skull development, as in assymmetrical and turret-shaped malformations, clinically and experimentally observed in the course of chronic nasal obstruction.

Permit me to contribute some reflections and personal experiences in reference to disorders of the mind following nasal diseases:

In November, 1883, an accident occurred to me while undergoing an operation for empyema of the antrum of Highmore; a fragment of the sharp spoon-curette used was broken off and remained in the cavity. This accident was followed by copious salivation, and with so much congestion in the nasal chambers that respiration through these passages became an impossibility. Sleep could be induced only by large quantities of alcohol. Fever then developed, irregular action of the heart, violent frontal headache, vertigo and great prostration. A swelling appeared near the inner angle of the right eye, but disappeared spontaneously, leaving great irritability of the eye. I was confined to bed, was somnolent, and suffered from the most confused and frightful dreams.

Feb. 18, 1884, the fragment of the curette was removed, and thirty-six hours afterwards, while in a somnolent state, I was conveyed to an asylum for lunatics at Hamburg, the symptoms having become so violent that my attending physician thought me insane. This action was taken against my wishes and the remonstrance of my wife. Many of our prominent authors on psychology have dwelt upon the great damage often arising:

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*Read before the Southern Section of the American Laryngological, Rhinological and Otological Society, New Orleans, March 3, 1897.

I. From deluding patients in order to more easily transport them to an insane asylum, a too frequent and improper occurrence, and often dangerous to the mental equilibrium of the patient.

II. From confining patients with acute disorders of the mind in a common mad-house, on account of the inadequate attention, and the entire change of environments.

I think that no physician is justified in assigning a person, requiring his special attention, to a lunatic asylum, for such affections as erysipelas, meningitis, typhus or similar affections, associated with acute mental diseases.

My general health declined rapidly, because: (1) The suppuration of my antrum was left entirely to nature's resources. (2) I was denied the privilege of seeing my relatives for weeks at a time. (3) My surroundings, with the noises usual to an insane asylum, such as the incessant tramp, tramp of some of the patients, and the groaning of others in the room adjoining mine, and the constant watch, day and night, by attendants, who by the rattling of keys while changing watches, and the glaring light of a bright lamp in my room, deprived me of much needed rest. I suffered from hallucinations during my sleep, and, I believe, during the third night after my confinement, I became violently insane. The suppuration in the antrum gradually diminished, and I recovered the use of my mental faculties, and was soon able to take exercise, with an attendant, within the pleasure grounds of the asylum. Still, the fact that I was confined against my will preyed upon my mind, and the officials finally yielded to my solicitations and I was transferred to the private institution of Dr. Jessen, at Kiel. Here I was allowed to wander, midst beautiful surroundings, in company of Dr. Jessen or members of my family. At the end of a month I was declared entirely recovered and again fit for the practice of medicine, although at Hamburg I had been proscribed forever from all possibility of recovering my health, and my case diagnosed as softening of the brain.

Owing to the existence of a law at Hamburg that a physician, having had even a slight or transitory mental abberation, requiring another physician's tutorage for at least a year's time, was debarred from practice. I removed to Danzig, but even here I was not allowed to practice for some time.

Zollingbroke's saying: "Resignation is true magnanimity," is a fine one, but not always easily complied with.

In the summer of 1895 I treated a great many cases of purulent ear, nose and throat diseases, and I again suffered from suppuration of the nose. I drilled into the antra, and found both filled with purulent secretion. The right side yielded readily to local and constitutional treatment, but the left side became more aggravated, the suppuration became more profuse and fetid, the nasal mucosa swelled to the point of causing dyspnœa, especially at night, swelling below the eyelid, and pains in the eye. While examining my mouth with the mirror, I found a small black spot on the masticating surface of my only remaining molar tooth, which had been filled twenty-two years previously by a dentist at Frankfurt. I requested a dentist to remove this tooth, but he refused, as he did not think that the tooth had anything to do with the causation of the purulent discharge. I now had to give up my practice and was confined to bed, and only obtained relief by the use of sudorifics, such as the drinking of large quantities of sour lemonade, and by enveloping my body in woolens. I again became stupefied and somnolent, and found it difficult to concentrate my thought on any subject. I knew that my mind was becoming affected, as in 1884, and fully determined upon having the tooth extracted, as I was certain that it was greatly to blame for my unfortunate condition.

The tooth was found to be badly affected, was foul-smelling, one of its roots showed signs of periostitis, and had a shell-like, osteophitical excrescence. The suppuration gradually decreased. The alarming, meningitis-like symptoms, together with the pain in my eye and the swelling of my cheek also subsided and ceased after a few days.

I shall not encroach further by relating observations of similar cases collected in my practice, or from compilation from rhinological or psychiatrical literature, but I desire to call your attention to a practical and very important point, viz., the occurrence of alarming cerebral symptoms, not only in affections of the ethmoidal, sphenoidal or frontal sinuses, but also in those of the antrum of Highmore. Maxillary empyema should be definitely excluded before operative procedures on any of the neighboring sinuses, especially the frontal, is undertaken. Permit me to add here a number of observations on the etiology of mental affections in their relationship to nasal diseases in general, and of my personal case in particular.

I. Direct extension of inflammation to the meninges along the vessels and nerves passing through the bones has been proven by Ortmann's post-mortem examination of a case of meningitis following suppuration of the sphenoidal sinus. Inflammations extending through the posterior wall of the sphenoidal sinus may occur without the presence of any symptoms of mental disease; inflammation extending through the roof of the sphenoidal sinus is frequently accompanied by symptoms of mental disease, and inflammation of the ethmoidal or frontal sinuses proceeding to the brain is generally accompanied by symptoms of mental disease. If psychical troubles are observed as an accompaniment of inflammation of the antrum of Highmore, together with empyema, and these disappear at the same time, we are justified in the assertion that the mental symptoms are dependent upon the antral lesions. To substantiate this assertion I cite, first, B. Fraenkel's recently published observations on self-healing ethmoiditis after extraction of a molar tooth, which had also provoked maxillary empyema; second, my own case, already detailed, wherein the then existing slanting double meninges would seem to indicate a previous ethmoiditis, and, furthermore, only by the extraction of the fragment of the curette was the development of a fatal meningitis prevented. In reference to my comparatively quick recovery, both in 1884 and 1895, I believe that the meningeal disturbance was entirely functional and not anatomical in character.

II. Swelling of the nasal mucous membrane, accompanying maxillary empyema, will surely occasion, as previously cited by myself and others, a diminution of respiratory power, thus producing circulatory disturbance and stagnation in the venous and lymphatic vessels, not only in neighboring areas, as in the eyes and ears, but also in the cranium. The question is whether the trouble in lymphatic vessels is more important than in venous ones. As for the so-called meningitis serosa, it could in itself be produced by great swelling of the nasal mucosa in spite of any anatomical proof (in man, to the contrary, of communicating vessels existing between lymphatic ducts of the brain and those of the olfactory nerves. Key, Retzius and others have conducted their experiments in this direction thus far only on animals; we are thus fairly justified in concluding that a similar anatomical relationship of these communicating vessels exist as well in man as in animals.

According to Von Gerlach, there is considerable difference between the examination of animal preparations in a fresh state, with perfectly preserved permeability of lymph ducts on the one hand, and injected human cadavers on the other. Girard cites a case of long-standing hydrocephalus, where the patient was cured by the discharge of a considerable quantity of cerebro-spinal fluid from the nose, thus indicating the importance of proper rhinological attention in this class of diseases, and also proving that proper rhinological treatment is, perhaps, more effectual than the present fashionable lumbar puncture, a measure so frequently, and often carelessly, applied for the relief of symptoms of simple headache.

Of still greater import is the question of the existence of accumulated fluids in the so-called cavities of the brain, under normal conditions, in the absence of any absolute proofs. Let me insist on two factors in this consideration:

1st. On dissecting human cadavers, the ventricles of the brain are frequently found quite free of any fluid; in W. Braune's excellent standard drawings of frozen sections of the head, the walls of the ventricles lie close together. 2d. The ventricles are always free of fluid in sound animals, such as cats, rabbits pigeons, hens, ducks, turkeys, etc. To substantiate these observations, the former are killed by strangulation, the latter by compression of the throat and decapitation; the heads, as previously recommended by me, are, while quite fresh, split by means of knife and hammer. I am disposed to agree with Adamkiewitz and other authors, that accumulations of fluid found in the ventricles of the brain in such animals, are not to be considered as a normal condition, but rather the result of impairment of circulation. This conclusion is reached in considering the stasis of a venous character, influenced by the condition of the choroid plexus.

Here, also, I would state, that the evidences deduced from a study of the human cadaver (as demonstrated by the vascular tunic of the eye), where considerable quantity of blood from the brain has been lost, or where there has been an emersion, for months or years in alcohol, are decidedly inaccurate and unreliable.

III. Besides lymphatic and venous stasis, there is a certain auto-intoxication arising both from fetid exhalations from the nose and from the resorption of purulent material, which must be recognized in the consideration of mental diseases in their relation to nasal affections. Wagner, of Vienna, has recently published observations of mental derangements, the result of auto-intoxication occurring in the course of affections of the stomach or bowels. The resorbing power of the nasal mucosa, and the consequent mental stimulus, has been the origin of a number of peculiar practices.

Snuff-taking while in the field and amidst the roar of the cannon was frequently indulged in by many great generals, as Von Moltke, Frederick II., Prince Eugene and others.

Niopo or Curuga powder, prepared in a peculiar manner, from a mimosa-like plant, as reported by La Condamine and Humboldt, is applied by the savages of the Orinoco to the nasal mucosa as a mental excitant.

In the Chronicles of Josephus we note that in the age of King Solomon, 1000 B. C., madness was cured by applying a certain narcotic root called Mandragora (?) to the nasal mucosa of mentally deranged persons.

These, as well as many other analogous cases, indicate that the reaction of certain substances applied to the nasal mucosa is apparent, and we may also infer that the brain may be influenced by foul-smelling suppurations of the nose or the sinuses. It is possible, too, that certain hallucinations, presumably due to disorders of the stomach or blood, may, in reality, be caused by an existing nasal suppuration.

IV. The question of direct absorption of oxygen gas by the central nervous tissues, by intimate connection with the olfactory bulbs, may also be cited. The publication of a series of experiments by Johann Ranke brought this subject to the notice of prominent physiologists. The exceedingly great development of the nasal, and especially of the frontal sinuses in some mammalia adds to the importance of this idea. Of this class, the elephant is a prominent example. Many birds also have an unusually sensitive and large nasal development, where the vast air-spaces extend forward to the extremity of the beak and backward within the basilar bone, approaching the medulla oblongata. This, then, might constitute the basis for a constant æration of the central organ through the nasal channels.

From this series of considerations, then, first, by direct extension of inflammation to brain due to contiguity of tissues; second, by lymphatic and venous stasis; third, by auto-intoxication, and fourth, by prevention of proper nasal æration, we are justified in our conclusions that mental derangements can be called forth in the course of nasal affections.

Uncommon Nasal Paræsthetic Neurosis. Dr. Sayers. (*Medical Record*, May, 1897.)

Attacks of periodical flushings over the end of the nose, together with a sense of burning in the integument of the end of the nose, or over the entire cartilaginous portion, has been observed in a neurotic female, married, twenty-three years of age. General restlessness and mental depression accompany the local symptoms. No cause was discovered. Various methods have been employed without permanent relief. (Turbinated engorgement frequently gives rise to a similar train of symptoms. Vasomotor periodica at times offers the same picture. Local disease should be suspected.) M. D. L.

HYPERTROPHIC RHINITIS.*

W. T. GROVE, M.D., EUREKA, KAS.

When requested to read a paper before this Society I was prompted to prepare a paper on the above subject for two reasons, viz.: because I have been a long sufferer myself, dating back to my earliest recollections, and because I have had more experience in treating this malady than any other chronic type.

Hypertrophic Rhinitis is an inflammatory condition of the nasal mucous membrane characterized by hypertrophy and chronicity.

PATHOLOGY.

The direct causes have not as yet been satisfactorily demonstrated by our best pathologists; perhaps because its course is so variable in different patients.

We have a marked vaso-motor disturbance, defective nerve nutrition. The greater number of cases are dependent upon central causes, the condition lying in the vaso-motor system. Such patients are nervous and have tendencies to cardiac irritabilities, and especially to circulatory disturbances, such as cold feet and cold hands. Especially is this true in the later winter and earlier spring months when the air is damp and penetrating. Changeable, and particularly cold and moist atmosphere, is inducive as casual factors.

During the months of July and August, when heat is intense, patients are very apt to lie in night drafts for comfort sake, and thereby induce additional cold, and add another link to the already long pathological chain.

Heredity is an unquestioned influence, and all the hereditary influences which are handed down from generation to generation. Gouty and lithæmic diathesis are not to be overlooked as inducive influences. This class of patients is very prone to catch cold.

Nasal obstructions of all kinds, including spurs, polypi, deflected septi, rhinoliths, mal-formations, exostoses, traumatic injuries, no matter at what age or hour received, are potent-bearing and inducing influences. Nasal bones, when once broken by violent means, are hard to get re-adjusted correctly. Many times nothing is done, save shaping the nose a little, and sometimes the best skill fails to readjust. Naso-pharyngeal obstructions are direct causes, no matter of what kind, adenoids, polypi, including other classes of tumors. I have with me a specimen naso-pharyngeal polypus which I removed nearly two years ago with Bosworth's cold snare, kindly assisted by Dr. Dillon, of Eureka. The removal of this, and some cauterizations, partly trichloracetic and partly galvano-cautery, seemed to give the patient satisfactory relief. It has been stated as a pathological fact "that many nasal inflammations commence during the intrauterine life." In the first stage we have a dilation of the venous sinuses, or a vaso-motor paresis. The vessel always seemed to be relaxed, resulting in hypertrophy of turbinated bodies and surrounding tissue of various degrees, even to complete stenosis of one or both nostrils.

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*Read before the Second Annual Meeting of the Western Ophthalmological, Otological, Laryngological and Rhinological Association, St. Louis, April 8th, 1897.

A clot of blood is usually present in the dilated sinuses, and an outpouring of lucocytes, with a tendency to fibro-blastic organization of the same into new connective tissue.

The second stage is a sclerosis. Both stages may be present in the same individual; the first stage in one nostril and the second stage in the other. In the sclerotic stage the turbinated bodies are more or less dense, and hard obliteration of the vascular sinuses occurs at times in the new pathological change, as a result of contraction, thrombi, etc. The nutrient blood vessels are often in turn destroyed, thereby inducing causes of atrophic rhinitis.

SYMPTOMS.

We first have nasal obstructions; respiration through one or both nostrils is seldom, if ever, free; complete occlusion through both nostrils is very common. The voice becomes nasal, or as people sometimes say, "They talk through their nose." Under such circumstances mouth-breathing becomes established, and when of long standing it keeps the fauces dry and more or less irritated. The patient becomes sleepy and dull, and the air that should have been moistened, warmed and strained, has been devoid of either physiological function and induces pharyngo-laryngical complications. At first the discharge is watery and profuse, more so on cold, windy mornings, especially when facing the wind. But after long standing it becomes tenacious and tough, and frequently lumpy and scabby. The above symptoms are very annoying to the patient. It is all the more so when it drains posteriorily and has to be hocked out. Too severe hawking is also injurious to the walls of the naso-pharynx and fauces. Stenosis is not nearly so common in the sclerotic stage. The sense of smell is often blunted, the sense of taste impaired. Chronic pharyngitis, laryngitis, trachitis and bronchitis are direct symptoms of these nasal diseases. Eustachian and middle-ear complications are frequent accompaniments. Diseased glossal glands are many times complications.

TREATMENT.

The scientific way to treat this malady is like the treatment of other conditions, viz.: To treat the causes, and the effects will follow. We have to treat the conditions in each individual case as they come up. If the so-called Luschka's tonsil is enlarged it should be reduced. If we have anything like permanent or stationary hypertrophied turbinates, they should be reduced. If any exostosis, cartilaginous growths, polypi, mal-formed turbinated bones, or any other movable obstructions are present, they should be gotten rid of as scientifically and skillfully as possible. In the young child we are able to remove adenoids with our finger nails, but I think a semi-anæsthetic stage, under chloroform, with a good assistant and use of a curette, is a much more scientific method, as recommended by Dr. Hal Foster in a recent article. The removal of spurs, exostosis, mal-formed turbinated bones can be well accomplished by the use of the knife and saw. The amount of cauterization to the turbinates or other hypertrophies is a matter of vital importance. Too much tissue must not be destroyed, for two reasons: First, The physiological functions will be interfered with. Second, Too much cauterization is inducive to atrophic rhinitis, a worse condition than the one we wish to eradicate. The tendency now advanced by our most scientific writers is not to cauterize too much. The matter of cauterization is one of choice.

Any of the various caustic acids can be used, viz.: Nitric, tri-chloracetic or chromic acids, or the galvano-cautery. I prefer the galvano-cautery to any of the caustic acids, whenever it is possible to use it, for several reasons: you can better limit your amount of destruction; it is clean, aseptic, scientific and impressive to the patient. Of course, it is possibly necessary to combine both methods, in many cases, being more convenient to use the acid method than the galvano-cautery. The galvano-cautery is certainly to be preferred when cauterizing glands at base of tongue, and posterior pharyngo-nasal cauterizations. An acid application may drop on a place where it is not wanted. The frequency of cauterizations depend: first, upon the degree of hypertrophy of the case; second, how much is cauterized at any one sitting, and how well the case gets along after being cauterized. Ordinarily, once in a week or two, or even oftener, if but a very small surface is cauterized at any one time. Frequently we can cauterize one side at a time, and in a day or two the other side, and so on. We should avoid cauterization by any means or method during an acute attack of rhinitis, because we have an inflammatory condition with which to start. Second, we have an exaggerated hypertrophied condition, plus our chronic condition. The matter of spraying is of paramount importance. Various modifications of Dobell's solution used as a spray. Solutions of antipyrine, varying from ten to thirty grains to the ounce of sterilized water, especially where we desire a shrinking effect of the tissues. These alkaline solutions are preferred after cauterizations. Menthol, gum camphor, with the various oils, such as eucalyptus and gaultheria in liquid alboline as a base; these can be combined as seems best to suit each individual case. The oily sprays are best after the acute inflammation has subsided, unless they be rather mild, in which cases they can be used subsequent to cauterizations. Aristol salve, ten to twenty grains to the drachm of vaseline, is also a nice preparation after operating, to apply to the nasal and mucous membrane. Protoneuclin powder, applied immediately after operation, certainly arrests, to a great degree, inflammation. Local applications of various alterative drugs, modified in strength to suit each individual case, such as iodine, tannin, glycerine, iodide of potassium, creosote, tincture of chloride of iron, are among the most important to be used. Weak solutions of the chloride of zinc and nitrate of silver are exceedingly useful where we desire a stimulating effect. Local galvanism is no doubt beneficial in many cases to the turbinates. This I have never practiced. For local anæsthesia I have always used cocaine hydrochlorate. Constitutional treatment is required in the majority of all cases, and is of paramount importance. The practice of medicine, no matter in what branch, is purely an art—not a science. Every patient is a law unto himself, and we must inquire into his habits of dress, eating, exposure, occupation, etc., and bring each individual case to an observance of a strict hygienic rolê. Many times, by the correction of some bad habit, we are able to be successful, when we would otherwise fail.

The successful doctor must be "Monarch of all he surveys." This is gradually, day by day, given him by ardent study, observation and real meditation. Of course, reading thoughtfully is good exercise, but careful and deep meditation over cases from time to time, mingled with advices from authors, either written or verbal, are indispensable to any man's success.

THROAT MANIFESTATIONS OF TRANSMITTED SYPHILIS.*

BY DR. W. W. WHITAKER, COLUMBUS, O.

When a child is born of syphilitic parents it should at once become an object of especial interest to the physician, who, with systematical regularity, should inspect it with the hope of anticipating or discovering the very first lesion of the disease. Careful attention and supervision should be continued until puberty has been attained. Remembering the cell instability of childhood and the glandular irritability usually present during any infectious reaction, it is, indeed, no wonder that the mucous membrane and lymphatics of the throat become infiltrated early and assume an active part in the subsequent history of the disease.

Physicians, seemingly, are prone to overlook lymphatic glandular irritability and consider it a feature of the life of the child rather than one of pathological importance. It is to the integrity and healthfulness of the lymphatic system that we look for the proper nutrition, growth and subsequent development of the child. What can derange its functions in any way causes a lesion of nutrition.

The naso-pharyngeal mucous membrane is ever ready to become hyperæmic, and it responds more or less quickly to a variety of infections, such as we see, for example, in whooping cough, measles, etc. The fauces in primary syphilis presents a characteristic redness which is but a local expression of the systemic infection. In hereditary syphilis the same conditions obtain, but they are less active. The mucous membrane in the young, apparently, is predisposed to congestion and receives infection quickly. The lymphatics bearing the infectious agents are stimulated and the lymph follicles receive an increased quantity of blood and become active in proliferation. The lymphatic hyperplasia becomes more or less general and the mucous membrane is invaded. The normal histological elements of the muciparous glands are hypertrophied and there is an increased mucus flow. The parts being congested, there is an increased local temperature, which, together with the abnormal and abundant quantity of mucus, favors cell proliferation and degeneration.

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*Original abstract of paper read by title before the Western Ophthalmological, Otological, Laryngological and Rhinological Association, St. Louis, Mo., April 8, 1897.

When these conditions are established early in life we have the "lymphatic diathesis," to which we owe so much, for the many subsequent pathological conditions found in the throat.

Gummatous deposits occur in the lymphatic bodies about the muciparous glands in the fauces, under the soft parts. Owing to the liberal distribution of these bodies, extensive areas may be invaded before the process of softening begins, which, when once established, spreads rapidly and causes extensive destruction. Throat symptoms may be anticipated but seldom encountered until after the age of five years.

Fortunately, inherited laryngeal syphilis is not frequently encountered; but when it does come it is attended with grave conditions. In the very young the tendency to œdema, or laryngismus, may be brought into activity by exposure to cold or some other exciting influences, and the child's life be endangered. * * *

Stenosis of the larynx following ulceration is a very grave condition, for which treatment is not always satisfactory.

Recent strictures cause the least annoyance and respond better to treatment; while, on the contrary, slowly-forming strictures yield but imperfectly. Destruction of the epiglottis is not so dangerous a condition as might be supposed, because the pliable structures about the opening assume the compensatory function of a sphincter and prevents the introduction of food. Fibrinoplastic exudations may become organized as in primary laryngeal syphilis and produce dislocation and deformity of the cartilages. Likewise papillomatous degeneration is prone to supervene about the seat of ulceration in the larynx, or by a proliferation process invade the laryngeal space, encroach upon the vocal chords, and even ascend the air passage. * * * The loss of voice, pain and cough are features prominent in the history of the diseased larynx.

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So many suggestive conditions are present in the syphilitic to arouse our suspicions that we should *not* be misled or mistaken in forming a diagnosis. Tuberculosis and syphilis are often confounded, and both may even be present in the same case. Syphilitic laryngitis is often diagnosed as one of tuberculosis when the two diseases are in the same throat, because the sputum contains bacilli.

The history of the child, its development, its susceptibilities and the leading symptoms are sufficient to assure the diagnosis. When doubt exists, tentative constitutional treatment will be of assistance in making the decision, and it should be employed. * * * The "notched teeth" of Hutchinson have always been present in cases observed and there is no cause to question their significance as a diagnostic feature. * * *

In forming a *prognosis* a careful consideration is necessary, otherwise an unexpected calamity may be experienced in young children. The younger the child the more guarded should be the opinion. The small larynx of childhood, the tendency to œdema and laryngismus after exposure, should always be remembered and its importance explained.

Generally speaking, syphilitics respond kindly to treatment and few other diseases afford such possibilities for recovery. Occasionally, however, infected infants are so faulty in development and nutrition that they respond slowly and unsatisfactorily to whatever treatment is pursued, and they finally succumb. * * *

The care and attention given to syphilitic children is a matter of the greatest importance. The surroundings, whether housed in close, overheated, dark and poorly ventilated apartments, or is taken into the air and sunlight; the quantity and quality of nourishment, and the habit of bathing, are factors important in the consideration and management of the disease and deserves the constant attention of the physician. The child's digestion, too, is another feature too often overlooked. In many instances assimilation is imperfect, because of faulty digestion. To obtain adequate nutrition, sufficient for the requirements of normal growth and development, it is imperative that we have digestion as active and healthy as possible. To assist this and aid the assimilative functions, it is desirable to administer some of the prepared digestive ferments. Further benefits may be obtained by the use of predigested foods when occasion demands.

It should be the constant endeavor of the medical attendant to keep the bodily functions in an active condition, and see also that the secretions are maintained to a degree of proficiency.

Syphilitics usually bear mercurials well, and certainly there is no remedy at our command that is its equivalent or can take its place in the management of this disease. No other pathological condition will give way so truly to medication as does syphilis to full, regular and continuous doses of mercury. Especially the curative properties of mercury will be enhanced, and noticeable if administered with iron. Indeed, personally, iron has long been considered a factor quite as important for the cure of this disease as mercury, and in the treatment of the original infection it is my custom to give it generously and continue as long as mercury is used.

Thus employed, the usual "syphilitic pallor" is prevented and nutrition better maintained. The digestion is not so frequently deranged and rarely is there salivation. With a liberal supply of iron it is the usual experience to find syphilitics weighing more and in a better general condition at the conclusion of the course of treatment than when it was commenced.

Cod liver oil, a remedy too often overlooked and frequently wrongly administered, deserves a better estimate than it receives in the treatment of diseases of young life. It is a food particularly rich and peculiarly happy in the deranged nutrition and delayed development which so frequently accompanies transmitted syphilis.

To attain its best results, however, it has been found necessary to depart from the usual and accepted methods of administration recommended by authorities. Given after meals, the oil fails to be properly emulsified by the pancreatic juices, and, as a consequence, only a portion is absorbed and a greater part remains in the digestive canal to cause disturbance which compels that the remedy be suspended.

Administered before meals, and in smaller doses, it meets the pancreatic juices alone, when a better emulsion is formed and absorption is complete; so that we really receive a greater nutritive return value for a smaller quantity of the oil.

To assist the pancreatic action, we find the oil may be administered with the isolated pancreatic ferments, which gives us a food of high standard nutritive value that is practically ready for absorption, and one that does not derange delicate stomachs which accept it and retain it without nausea.

The alkaline iodides retain the confidence of the profession and should be administered in the latter developments of the disease, and administered in increasing doses. They may be given singly, or in combination with mercurial preparations according to established methods and known as "the mixed treatment." Belladonna may be combined with them when the mucous membranes exhibit evidences of too much irritation. * * *

Local treatment, in children, is not always possible, because of fear. Rebellious, improperly governed children offer the greatest resistance, and oftentimes the physician is handicapped by an oversensitive, foolish mother, who insists on accompanying the patient and being present at each treatment.

The confidence of children can only be gained by a patient, kind and gentle manner, when this is once established, they are docile and tractable to a satisfactory degree.

As a rule, gargles, for throat ulcers, fall short of the purpose for which they are intended. It is easier to reach the parts involved, and to cleanse them, if sprays are used.

For this purpose the alkaline antiseptics, combined with an astringent, are desirable. An occasional application of hydrogen dioxide, diluted, secures a clean surface, to which it is desirable to make a secondary application—such as chromic or lactic acids, properly diluted.

A liberal and too frequent use of hydrogen dioxide is not to be encouraged, because of its tendency to produce irritation and congestion of the mucous membrane.

Laryngeal papillomatous growths are difficult and unsatisfactory to treat because of their situation. * * *

As to the length of time treatment should be continued in hereditary syphilis it would be difficult, indeed, to give a reliable or satisfactory estimate.

The treatment should be governed by the results obtained, and must be pursued as long as the child's growth, development and general health and condition requires.

If constitutional treatment is neglected and is not systematically continued from the very first appearance of the disease, and the child is not properly nourished, fed and hygienically cared for, nothing but disappointment can or will result.

As an adjuvant to any method of treatment, I take especial opportunity to refer to the benefits which may be attained by a course of baths at either Mount Clemens, in Michigan, or Hot Springs, in Arkansas.

The medical profession in the United States is particularly fortunate in having these two resorts at their command in assisting to combat the progress of syphilis.

Without debating the especial and respective merits of either of these two places, it is only necessary to appreciate their value as a curative agent upon all conditions of syphilis to dispel any skeptical assertions concerning their beneficial influence upon the course of the disease. Any stubborn case of syphilis that has not responded to treatment should be sent there and the results judged impartially.

Dr. Max Thorner, of Cincinnati, announces the removal of his office to 7th and Race Sts.

THE FUNCTIONS OF THE TENSOR TYMPANI AND STAPEDIUS MUSCLES AND INCIDENTALLY THE MECHANISM OF TINNITUS AURIUM.*

BY THOS. F. RUMBOLD, M.D., ST. LOUIS.

It is not possible to properly treat these two subjects in the length of paper to which this one must be curtailed.

WHAT RECOGNIZED AUTHORITIES SAY CONCERNING THE ACTION OF THESE MUSCLES.

I consider that Landois and Stirling (1892) are among the most reliable physiologists. They say on page 1015: "When the muscle (tensor tympani) contracts in the direction of the arrow (pointing in the direction of the promontory), then the handle of the malleus pulls the membrana tympani inward and tightens it. This also causes a movement of the incus and stapes, which must be pressed more deeply in the fenestra ovalis as already described." * * * "C. Ludwig and Politzer observed that stimulation of the fifth nerve within the cranium (dog) causes the above mentioned movements."

My Examinations by Callisections on Animals agree with these physiologists. * * * * * * * * * *
I am very certain that the study of these organs by callisections and by clinical observations on human beings is far better than looking at pictures even in our best text books. It is only during life that these functions can be repeatedly demonstrated. This I accidentally found to be so while studying the mechanism of tinnitus aurium.

ONE KIND OF TINNITUS AURIUM SEEMS TO DEMONSTRATE THE FUNCTIONS OF THESE MUSCLES.

In order to be able to present my views distinctly I shall be compelled to refer, at some length, to the mechanism of tinnitus aurium, for it was the fact that one peculiar kind of ear-sound was maintained without variance, except as to severity, for many years, that led me to the conclusion as to the functions of the middle ear muscles.

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*Abstract of paper read before the Western Ophthalmological, Otological, Laryngological and Rhinological Association, April 9, 1897.
For complete article, apply to the author, who will furnish reprint.

* * * In doing this I think that the functions of the tensor tympani and stapedius will be almost perfectly demonstrated.

WHAT IS SOUND ?

Before proceeding farther, this question should be clearly answered. Sound, formed *in* the ear or on the *outside* of it, is vibration of some kind of a body, which immediately affects the ear. * * * * * We perceive sound only because of the transmission of motion, made by sound-impulses, to the auditory nerve; these impulses produce the effect of what we call sound. "In tinnitus aurium we have a sound that is not produced by sound-waves in the air, yet this sound must and can only be produced by motion imparted to the liquid in the internal ear."*

CAN THERE BE SOUND WITHOUT MOTION ?

All works on physics say that we cannot have sound without motion. * * * * * * * * * I take it for granted that all will agree that we can have no sound, hallucinatory ones excepted, without motion.

IS THE SENSATION EXPERIENCED IN THE EAR A SOUND?

Several recognized authorities agree that the ear-sounds have a real subjective existence. I do not say that all say this, but I think that it can be demonstrated that all ear-sounds are the result of motion. The fact that there is a uniformity in the positive statements made almost universally by ear-patients as to the kind of noise in their ears must be admitted as sufficient to prove that the noise in this organ is a *sound*. I have the record of patients, natives of North and South America, Great Britain, Europe, Asia, Russia, Japan, China, Australia, Sandwich Islands, New Zealand, etc., all insisting that the noise in their ears resembles familiar sounds heard only in their native countries. * * * These ear-patients who lived in different portions of the earth, when their ears became affected with ear-sounds, could *not* have any other kind of sound in their ears save the familiar sounds that each heard at the time he contracted his tinnitus aurium. Of course he may have the "hissing" sound also, but this last kind of ear-sound is almost exactly similar in kind in all persons of all nations. This kind of tinnitus is almost universally described as a hissing sound, whereas the other, the familiar ear-sound, is almost always peculiar to the locality where the individual lived.* This is an important fact that should be kept in mind, as it indicates, nearly always, the kind of tinnitus aurium that affects the patient.

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*Extract from remarks made before the St. Louis Medical Society, October, 1873, and published in the author's work on "Hygiene and Treatment of the Diseases of the Nose, Throat and Ears," 1881, pages 348 and 349.

THE SUPPOSED CAUSE OF EAR SOUNDS.

During the spring of 1873, while preparing a course of private lectures for physicians on inflammatory diseases of the Nose, Throat and Ears, I was greatly perplexed, when I began to write of the cause of tinnitus aurium, to find one that would fit all cases.

At first I included a closure of the Eustachian tube, myringitis, inflammation of the middle ear and mastoid cells, etc. Then I called these ailments predisposing causes, and considered that they had an aggravating influence upon the labyrinthine inflammation, the real cause of the ear-sounds, as I then supposed. A more extended study into the histories of a large number of ear cases led me to abandon the idea of the inflammation of the labyrinth and call the cause a pressure upon the labyrinth through the stapes. The pressure idea was soon abandoned also; the theory of the hyperasthesia of the auditory nerve or other contents of the labyrinth was the next conclusion.

The hyperesthesia idea was not held more than three or four months, as I found that I was taking it for granted that tinnitus aurium was as inherent to a diseased ear as pus was to an abscess cavity. Besides this, I was presuming that sound was produced *in* the subject's ear by a different mode than it was produced *outside* of his ear. As extrinsic sounds are the result of vibrations, the intrinsic sounds must also have vibrations for their production, but how these vibrations were brought about I could not conceive.

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At that time I had been engaged for about five years in a thorough investigation of the functions of the Eustachian tube, and had noticed that in patency of this canal the patient's voice was transmitted to the ear through this abnormally open passage. In two instances the peculiar tone of the voice started a tinnitus that lasted for several hours. In one patient every eructation from the stomach, that passed up the open Eustachian tube, started a very disagreeable tinnitus that lasted sometimes all day; this condition continued for months.

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There is no way of avoiding the conclusion that the cause of sounds in the ear must be traced to motion. * * * * * * * * * An irregular caliber of the blood vessels can produce motion, so can a diseased condition of the middle ear muscles produce motion. As far as I know there are no other means of producing motion so that it will affect the auditory nerve.

In every work on ear diseases, in my possession—and they are all by prominent authors—it is easy to see that in certain cases the cause of these abnormal sounds is evident upon dissection, and in certain other cases, one author says: "We must be content to admit our ignorance of the cause," for no evidence of disease in or about the ear could be detected by the closest examination.

It is seen that one kind of ear-sound has a truly *objective* existence, while there is another that does not show any objective symptoms. Close examination will prove this to he correct.

TWO KINDS OF EAR-SOUNDS.

If ear-sounds are carefully analyzed it will be found that there are two very distinct kinds. They differ in the character of the sound, in their etiology, in the location of their origin and in their mechanism. One kind is of vascular origin, which I have named "vascular tinnitus aurium," and the other kind of muscular origin, which I have named "muscular tinnitus aurium." This nomenclature will locate each sound, give its origin and, at the same time, describe the kind of sound meant.

THE DIFFERENTIATION OF THESE TWO EAR-SOUNDS ASSISTS TO PROVE THAT THERE ARE TWO VARIETIES OF TINNITUS AURIUM.

It has long been known that many persons, who are partially deaf and experience excessive noises in their ears, will hear a conversation in a moving railroad coach better than in a quiet room, showing plainly that extrinsic noises have a controlling influence upon the sound produced in their ears. This is positive proof that all such persons are afflicted with muscular tinnitus aurium, and it goes to show that the ear-muscles imitate sounds.

The sounds that are formed in the internal ear and in its neighborhood, that is, vascular tinnitus aurium, will not be decreased by any degree of force of extrinsic sounds of any kind. Of course, extrinsic sounds will have no modifying influence on diseased blood vessels. It cannot correct their abnormally dilated caliber, the cause of vascular tinnitus aurium.

It is seen that if any extrinsic noise will cause even the least amelioration of an ear-sound, then the patient is suffering from the muscular variety of tinnitus aurium. If extrinsic sounds do not thus relieve the ear-sounds, then the case is one of vascular tinnitus aurium. As far as I know this is invariable.

PATHOLOGICAL CONDITION OF VASCULAR TINNITUS AURIUM.

Mr. Jas. Hinton says, in Toynbee's work, 1868, that tinnitus aurium "is obviously referable to vascular conditions as its exciting cause." Again he says: "But in ascertaining the cause of tinnitus, it appears to me that the great frequency with which the enlargement and fullness of the blood vessels of the labyrinth are found on dissection to accompany even slight inflammatory affections of the middle ear should not be overlooked.'' Dr. Jas. Jago, in 1867, ascribes the ear-sound to an abnormal condition of the small arteries. It is certain that these two very careful observers have found the cause of one kind of ear-sounds.

I think that every careful examination of a diseased internal ear will show the excessive irregularities of the caliber of many of the blood vessels. * * * * Every one who has listened o the thrill of an aneurism knows that the more sudden the enlargement of the vessel the coarser the noise made by the blood in its passage. Conversely, in very small blood vessels, the sound-impulses will be so rapid and fine as to resemble the escape of steam or the rush and roar of water, according to the proportionate size of the enlargement.

PATHOLOGICAL CONDITION OF MUSCULAR TINNITUS AURIUM.

This ear-sound is impressed upon the ear at a time when the middle-ear muscles are in a more or less abnormal condition. Very frequently this kind of ear-sound resembles some very familiar sound heard in the location of the patient's residence. It is almost universally observed that those living in one locality, as in a city, will complain of being troubled with a kind of sound that is peculiar to that locality, while those who live in a country location will complain of ear-sounds that are peculiar to that locality. This indicates that there is a very close relationship between the kind of sounds produced in different localities in which he lived and the sounds heard in the ear, and it shows plainly that the sounds heard in these localities have something to do in helping to produce similar sounds in the ear.

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It seems altogether probable the sounds in their ears dated from a period at which they heard something that produced a similar sound—that produced a similar vibratory motion of the membrana tympani, or the stapes, or both, at a time when the tensor tympani or stapedius, or both, were in an abnormal condition, so that they reproduced the same vibratory motion after the originating sound ceased, this continuation being the muscular tinnitus aurium.

I have never had an American patient, who was afflicted with this kind of tinnitus, say that he had a noise unlike any sound he ever heard, say, for instance, the Japanese musical instrument, the Chinese Joss bells, the Irish ''tea-kettle,'' etc. Very frequently, as already stated, there may be two or three more sounds in the ear at the same time, that is, there may be a hissing or a rushing sound, occasioned by blood vessel vibrations within the labyrinth or in the neighborhood, while each of the other sounds will be some familiar sound; one he heard while his middle-ear muscles were in such a diseased condition that they contracted this kind of tinnitus aurium. * *

THE CAUSE OF THE VIBRATIONS OF THE EAR MUSCLES.

Dr. T. Lauder Brunton, of London, in a very instructive article in *Brain*, July, 1878, on "Reflex Action as a Cause of Disease," says: "I have just mentioned one instance in which intermittent spasms (paralysis agitans) of a voluntary muscle, the orbicularis palpebra, was caused by irritation of the sensory nerve. This leads me to remark that a very important condition to be borne in mind is that constant stimulation of the sensory nerve will often produce clonic or intermittent, and not tonic or continuous contraction of the muscles which it may set in motion."

The contractions and relaxations that constitute a paralysis agitans of the orbicularis palpebra are very similar to the motion of the muscle or muscles in the middle-ear, both being caused by the same kind of diseased action, namely: irritation of a sensory nerve, the facial, or the fifth, or both. * * * * * * *

In the case of the familiar ear-sounds, for instance, the cricket sound, the function of the ear-muscles make themselves known by repeating the cricket sound after the extrinsic sound has ceased. These cricket sounds exactly suited the abnormal condition of the ear-muscles. Had the extrinsic sound not suited the abnormal condition of these muscles, the intrinsic sound would not have been experienced by the patient. * * * * In the instance of the cricket sound, the ear-muscles must undergo irregular contractions so as to form a peculiar sound, a sound unlike any other sound, and is produced by contractions that are unlike any other set of contractions. The ability of these muscles to form familiar sounds is part of their function, that of imitation, as has been stated and will again be mentioned.

THE APPARENT INTELLIGENT ACTS OF THE MIDDLE-EAR MUSCLES.

Some one may say: It is altogether possible that a paralysis agitans can affect the muscles of the middle-ear, but this condition can only cause a simple succession of contractions and relaxations, which would only make a uniform sound, but to give these diseased ear-muscles an apparent intelligence of following and repeating day by day for several years a peculiar rotation of contractions and relaxations, so as to form a special sound, is past belief.

In answer to this simple negation I will say: There are actions of medicines, and reactions of various parts of the human system that are past belief, were we not overwhelmed with the great number of facts that say plainly that things are so, although we cannot comprehend their mode of action. * * * * * * *

In the normal ear as soon as the sound-impulses cease their blows upon the membrana tympani, the stimulation of these two muscles to imitate and amplify sounds cease also, but in the diseased state their abnormal condition constitutes their stimulus, so they continue their peculiar contractions and relaxations, that is, continue to imitate these sounds because they come nearest to their hyperæsthetic or abnormal condition, this imitation being the muscular tinnitus of the middle ear.

If the abnormal condition is such that no outside sounds are exactly suitable for continuous repetition, then the ear muscles may take on simple contractions and relaxations of a uniform character, as already stated, just making a uniform sound, such as ringing or singing or purring; the latter sound resembles a sound that the contractions of the orbicularis palpebra would make, or they may imitate the sound produced by vascular tinnitus aurium, thus forming a hissing or rushing sound. In these cases there may be no momentary increase of the sound from the heart's action, as is almost always the case in vascular tinnitus, especially if an artery is the affected vessel.

Clinical facts prove that muscular tinnitus aurium is maintained in the ear for many years, that is, the ear muscles have repeated familiar sounds for many years. This continuance for many years proves conclusively that it is the function of the middle-ear muscles to imitate sound.

A PREPARATION AND A START REQUIRED.

Of course, the ear muscles must be made ready by disease for paralysis agitans, or the muscular tinnitus, before the accidental sound starts them. After these muscles are prepared by disease they *must* have a start. How could the ear muscles take on the old saw-mill sound of ''yow, yow, yow,'' unless the old mill started them? If that old mill had never made that ''yow, yow'' sound, that man never would have had that kind of tinnitus, that is self-evident.

These facts prove: First, that the ear muscles imitated the sounds formed by the mill-gate, and second, that they continued this kind of imitation for many years. It is not possible to have these familiar sounds repeated in the ear unless the middle-ear muscles imitated the extrinsic sounds and continued to repeat them for years. It follows, as a necessary consequence, that if tinnitus aurium is an intrinsic sound the ear muscles must have imitated the extrinsic sound, there is no avoiding this conclusion.

The ear muscles could not have acquired the function of imitation because of their diseased condition; this condition causes them to contract and relax, as in paralysis agitans, but not to imitate. Nor can these muscles imitate a mill-gate, or a cricket, or a musical, or any sound that is not a uniform sound. These peculiar sounds must be given to the diseased ear to be repeated; if they are not given they will not be repeated. * * The extrinsic sound and the tinnitus have a positive relationship the one to the other, and it is one of the faculties of the middle-ear muscles to imitate sound.

THE POSITION OF THE TENSOR TYMPANI AND THE STAPEDIUS INDICATE THAT I AM RIGHT.

The direction of the contractions of these ear-muscles is exactly in the same direction as that taken by the manubrium and the stapes when they are pushed inward by the sound-impulses. I ask, what is the purpose of the contraction of these muscles? Are they to *assist* the action of the sound-impulses, or are they to *resist* the action of the sound-impulses? The muscles are placed here to produce motion, and their action—be it noticed—is not to check the motion of the manubrium or the stapes when moved by sound-impulses, but quite the opposite; they assist the sound-impulses to increase the inward motion of these two bones. I ask particular attention to these facts.

The contraction of the tensor tympani increases the inward motion of the membrana tympani, and the contraction of the stapedius forces the base of the stapes farther into the internal ear, plainly showing that their action is in the direction of the sound-impulses. Also showing that *if they move at all* they must increase the motion made by the sound-impulses, which they are *required to do* if they play any part in amplifying sounds. In other words, if I had the placing of the middle-ear muscles so as to make them prove that my views are correct, I would place them just where nature has put them.

THE FUNCTION OF THE MIDDLE-EAR MUSCLES.

It has been my opinion for many years—although only partially expressed in my writings, because of a fear that I might be wrong—formed from close observations upon notes taken upon *several hundred* marked cases of tinnitus aurium of the middle ear, that * * * * * * * * * the function of these middle-ear muscles is to increase the sound-impulse motions of the small bones of the middle-ear. * * * *Of course, the amplification is entirely under the control of the mind.*

OUR EVERY-DAY EXPERIENCE PROVES THAT THESE MUSCLES AMPLIFY SOUND.

There are many times when noises are being made around us that if heard with the utmost distinctness would distract our mind from a certain train of thought, or would prevent us from hearing a certain particular kind of sound. For instance, while intently reading a very interesting book, we do not hear with the utmost distinctness, even comparatively loud noises, as the roll of a carriage, the striking of a clock, the step of a person in the same room, and almost numberless other lesser sounds. Or when at an opera no noises are plainly heard, except the musical sounds, unless they are overpowering. But when these distracting noises are louder than are the musical sounds that are amplified by the ear muscles, we are annoyed because we are compelled to take cognizance of the distracting noises to the exclusion of the musical sound that the ear muscles have *vainly endeavored* to make the most prominent. Those who are listening to my voice do not hear other sounds around them nearly as plainly as they hear me. But if they turn their attention to those other sounds around them, they will hear them much more distinctly than before, and will hear my voice much less distinctly. At all times the action of these two muscles, in normal ears, prevents confusion, not by excluding certain sounds, for we do indistinctly hear them, but by amplifying the selected sounds we desire to hear, leaving the other sounds, that we do not desire to hear, unamplified. The reason why we weary of listening is because the middle-ear muscles tire in imitating and amplifying sounds. Without these selections, imitations and amplifications, all sounds would be equally heard to our great confusion. The confusion would be due to the fact of our inability to hear any one sound more distinctly than another, which can only result from a disabled condition of the middle-ear muscle or muscles. I have the histories of quite a number of patients—more or less deaf—who are thus disabled because their middle-ear muscles cannot select and amplify those special sounds that they desire most to hear. * * * * *

There should be no misunderstanding in regard to distinguishing the difference between the ability of selecting or choosing sounds and that of amplification or enlarging the sound-impulses. The ability to select or choose a sound for amplification is the employment of a mental faculty alone; it is a mental selection or choice. One may exercise this faculty, but still not have the muscular ability to perform the amplification. The ability to enlarge sound-impulses, that is, amplification, is performed by muscular action alone, of course, only when mentally desired, and this mental desire is the selection. An individual who can amplify these sounds may think that the simple desire to select is the reason for hearing the desired sound more plainly, when really this plainness of hearing is due to muscular action, muscular amplification, muscular increase of the size of the sound-impulses, and is the result of the mental desire to hear the sounds. One could as correctly say that the selection or choice of an object to strike is synonymous with the muscular act of striking, when really the muscular act of striking is the result of the mental desire to strike. One may have the desire to strike but not have the ability, as one may desire to hear a certain conversation in a noisy room, but not have the ability to amplify the desired sounds. Go with that person into a quiet room, then he will hear nearly as well as other persons, because he does not require to amplify the sounds that he desires to hear, there being no other sounds to mix with the sounds that he desires to hear, therefore no confusion.

* * * * * * * * * * *

The relative positions of the middle-ear muscles to the bones they move, prove, as has already been stated, that they are placed there for the sole purpose of amplifying sound-impulses.

It seems to me that all these facts plainly indicate that the function of the middle-ear muscles is to amplify and to imitate sound if the person so desires, the proposition that I undertook to prove.

The Correction of Depressed and Saddle-backed Deformities of the Nose, Etc. (Dr. J. O. Roe, *Med. Record*, June 5, 1897.)

In a very interesting and illustrated paper upon this subject, the well-known author describes a number of ingenious operations. Photographs accompany the text, which illustrated the pleasant results obtained. The operations were performed subcutaneously without the aid of metallic or other artificial supports. In these cases the nasal septum was present, thereby affording support for the tissues that were transplated for the correction of the deformity. The author remarks that these operations require frequent and careful attention, as the parts must not only be held in position by retentive appliances but the shape of the form of the dressing must often be changed from day to day as the swelling subsides and the union of parts takes place. Frequently the principal operation must be supplemented by minor ones for the correction of slight defects.

M. D. L.

INDICATIONS FOR PARACENTESIS OF THE MEMBRANA TYMPANI IN OTITIS MEDIA ACUTA.*

BY H. V. WÜRDEMANN, M.D., MILWAUKEE, WIS.

Ophthalmic and Aural Surgeon to the Children's Hospital; to the Milwaukee County Hospital for the Chronic Insane; Director to the Wisconsin General Hospital;
Secretary of the Section on Ophthalmology and Otology of
the Wisconsin State Medical Society, 1897.

The fact that inflammation of the middle ear is a serious complication of any disease from coryza to syphilis has been emphasized again and again in aural text books and other literature, yet it would seem that these warnings are neglected by many physicians, and the dangers of middle-ear inflammation are not at all recognized by the laity. Otologic practice is largely made up of the results of neglected or ill-treated cases, many of which have arisen as otitis media, occurring in the course of general affections. If it be a child with earache, nasty decoctions, such as chamomile tea or laudanum and sweet oil, are douched or dropped in the canal, and when the drum-head bursts or ulcerates the discharge is allowed to flow out of the external opening, becoming a fertile source of further infection. Thus the simple catarrhal otitis is readily changed into an intense suppurative process by infection from without. It seems reprehensible that such should be allowed to occur under the hands of otherwise qualified physicians, yet our case books constantly record such instances. Only a few weeks ago I was called to the death-bed of a woman who had meningitis of otitic origin, beginning in an earache ten days before. The disease had been allowed to progress, as the pain was partially subdued by opiates, until the inflammation and its products had taken the line of least resistance, lepto-meningitis resulting before the drum-head ruptured. The inflamed tympanum is a common and often recognized cause of meningitis in children. Relief of the discharge by a properly conducted paracentesis would have relieved the symptoms and prevented complications in nearly all of these cases.

From the point of view of the modern otologist, a discussion of the reasons for early opening of the drum-head in acute otitis media would seem superfluous reiteration. I cannot see why objections should be raised to such a simple procedure which gives such immediate relief of symptoms, mitigates the course of the affection and prevents development of sequelæ, yet I have found that some specialists (!) seldom practice paracentesis despite its urgent indications. When secretion rapidly forms in a closed cavity, as the middle ear and its adnexa certainly are when the Eustachian tubes are closed by inflammation, a point is reached when something has to go. Unless the tympanic membrane be unusually tough in acute otitis media it bursts spontaneously with loss of tissue, and a hole is formed similar to that which would be made by kicking into the head of a base drum. The pain is relieved both by spontaneous perforation and by paracentesis. The following points should be remembered:

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*Read before the Wisconsin State Medical Society at Racine, Wis., May 5th, 1897.

I. Earache is but a warning of, perhaps, dangerous disease, the pain of which may be masked by opiates to the ultimate risk of the patient's life.

II. If the drum-head be reddened or bulging, or if fluid be detected, it is advisable to incise the membrane at once before it bursts, as the character, location and extent of the tissue destruction is thereby limited.

III. Pain is relieved at once by the paracentesis, the course of the disease is shortened, the symptoms mitigated and sequelæ prevented by this, and after appropriate treatment.

IV. If the case be seen after spontaneous perforation, the hole in the drum-head will often be found to be too small or poorly adapted for proper drainage, and it may be advisable to enlarge it by paracentesis.

V. The little operation gives but temporary pain, and, if the physician does not make too much of a show, will be tolerated by any patient who will be thankful for the relief afforded his symptoms.

Meddlesome after-treatment should be discouraged, as when the diseased part is protected from further infection and the discharge not too frequently removed the case will usually run a mild course.

The canal should be wiped dry and rendered aseptic by sublimate or boric wash, the paracentesis done under sufficient illumination by the head mirror and speculum, which should be in the hands of every practitioner who should not hesitate to perform the operation in any case where an otologist is not available. A wick of iodoform gauze should be placed in the canal, to be removed not oftener than every three hours, for gentle removal of the discharge by gentle syringing with warm boric acid solution, after which the canal is wiped dry; another wick of iodoform gauze is inserted and absorbent cotton placed in the canal to exclude the outer atmosphere. Attention to the immediate causes of the middle-ear affection should be given, general symptoms met by phenactine, atropine and quinine, the bowels moved by calomel and salines, the nose and throat sprayed by a warm alkaline solution for cleansing purposes, and the nasal irritation and intumescence relieved by camphor-menthol or other appropriate spray.

128 Wisconsin St.

DIPLACUSIS AND EXTRACRANIAL TINNITUS.

BY DR. PEDRO VERDÓS (BARCELONA).

Translated from Revista de Laringologia, Otologia y Rinologia for THE LARYNGOSCOPE by Dr. Vincent Gomez (New York). Visiting Ophthalmologist to the Almshouse, Workhouse and Incurable Hospitals; Assistant Surgeon New York Eye and Ear Infirmary; Instructor in Diseases of the Ear, New York Polyclinic, etc.

Cases of diplacusis and of extracranial tinnitus occur so rarely that but few otologists have had occasion to observe them. With respect to diplacusis, I must declare that I am acquainted with but one observation, presented by my distinguished friend, Dr. Gellé, to Biological Society of Paris in 1888. As to extracranial tinnitus, our knowledge is not to-day as limited as formerly. Various writers, and especially Politzer, have contributed to elucidate this problem of otology, although they point out the rarity of this phenomenon. In view of these facts, I have deemed it wise to present additional facts, noted in a case recently observed, in order to contribute to the resolution of these intricate problems of the pathology of the ear.

These two forms of neurotic disturbance of the auditory apparatus have never been seen to occur together, at least not to my knowledge. The case which I wish to cite is of special interest because both phenomena are equally prominent in the same individual.

The patient was a woman about fifty years of age, single, of lymphatic temperament, obese constitution and without any previous history worthy of mention. She had suffered for some time from neurasthenia, for which she had been properly treated by Dr. Espadaler. Seeing that the diseased condition progressed in spite of appropriate treatment, and observing that the principal symptoms emanated from the auditory apparatus, the patient was referred to me by her family physician.

Questioning the patient, we elicited that her principal complaint was a constant tinnitus which she always perceived at a distance of two or three metres from her ears. She compared the tinnitus to the noise made by escaping steam. Now and then, and principally when surrounded by silence, she also heard another sound likened to the human voice in a low tone. These peculiar noises, heard at a distance from the ear, so alarmed the patient that she was in a state of constant cerebral excitation.

On examination the organs of hearing presented nothing plausible which could explain the case. Both auditory canals, as well as the drum membranes, were in a normal condition. The Eustachian tubes were as permeable as in the normal subject. The nose and naso-pharynx were likewise normal. In a word, the organs of sound-transmission were perfectly intact. The auditory nerves seemed to be in a perfect physiological condition. Therefore, there was not the slightest degree of any diseased condition present. But when we attempted to examine the osseous conductibility through the cranial walls, the phenomena of diplacusis became surprisingly clear and pronounced.

Applying a vibrating tuning-fork at any point on the cranium, the sound was perceived by the patient at a distance of one or two metres on the opposite side. The fork being placed vertically she perceived the sound at the same distance, but it was more posteriorly. The same phenomena could be produced, employing Politzer's acumeter or the watch. The clinical phenomena never failed; every time the experiment was repeated identical results were obtained. This was not so, however, when the source of the sound, either the tuning-forks, the acumeter or the watch, tried at a distance of ten or fifteen centimetres from the auditory canal. Under these circumstances the perception was always at a distance of two or three metres, but at times it was perceived on the same side as the source of sound and at others on the opposite side. Here the diplacusis, in this case, was not constant. The electrical reaction of both nerves was normal.

We practiced all the known methods employed in the treatment of these conditions of hyperexcitability, and, although at the beginning the disease seemed to ameliorate, it later remained stationary, without our being able to accomplish a definite cure.

If we now tried to investigate the nature of the process capable of causing such disorders, and the pathogenic mechanism, by virtue of which they are developed, we would be lost in a labyrinth of hypotheses from which we could, with difficulty, extract ourselves. We know from general pathology, that *oloquiria* (diplacusis) consists in the perception of a sensation on the opposite side from which it has taken place, and we know, from observations published by

Obermeister, Ferrier, Fisher, Leyden, Hammond, Hutchinson and Brown-Sequard, that the phenomena of *oloquiria* usually occur in tabetic persons or in those affected with spinal lesions. But our patient never presented any symptom which would indicate or lead one to suspect the presence of a spinal lesion. Hence, what was the cause of this phenomena? The case reported by Gellé presented, likewise no symptoms of tabes, neither was she hysterical, but she had evident lesions of the middle ear, viz., otitis chronica in the hyperplastic and schlerotic stage. Besides, Gellé's case presented an extraordinary hyperexcitability of one ear, and from this fact Dr. Gellé admits that the exaggerated excitability of one ear was the cause of the phenomena present in his patient. He also said that the binauricular apparatus of accommodation could cease functioning with more energy on one side than on the other, and so give rise to the perception of sounds on the opposite side. In the writer's case none of these circumstances were present, and hence he must again ask: What was the cause of the *oloquiria* (diplacusis)?

If we analyze the phenomena of *oloquiria*, together with the phenomena proper of extracranial tinnitus, being that both conditions were present in the case observed, perhaps we would have to go into details somewhat in order to try to throw some light upon the physiopathological significance of the very rare phenomena which we are considering.

It is generally admitted by otologists, and sanctioned by the unquestionable authority of Politzer, that tinnitus, without material lesion of the auditory organs, recognize as a cause some circulatory disorder of the labyrinth or an especial irritability of the cerebrum or of the meninges. From the fact that in our patient the auditory nerves reacted normally, and as she did not have other symptoms indicating circulatory disturbance of the labyrinth, I do not believe that the case can thus be explained. Consequently, the key to the situation must be looked for, either in the brain itself or in the meninges. But as the knowledge we possess of the anatomy and physiology of the acoustic centres is as yet very limited, we are not now in a position to solve problems of this nature, and hence I will only contribute the clinical case.

CLINICAL REPORTS.

EXCESSIVE FLOW OF SEROUS FLUID FOLLOWING OPERATION UPON THE STAPES—RESULT SUCCESSFUL.

BY GEO. C. STOUT, M.D., PHILADELPHIA.

Instructor in Diseases of the Ear, Philadelphia Polyclinic.

Mary M., age 20; born in Ireland. Referred to me by my friend Dr. T. On Dec. 12, 1896, she complained of absolute deafness in her left ear, which dated from early childhood. There was no history of any of the diseases of childhood. Examination showed:

A. D. Tympanic membrane in good condition.
Rinne. Hearing normal.
A. S. Tympanic membrane in fair condition.
Rinne. Markedly negative.

When the right auditory meatus was thoroughly closed, the voice could not be heard, even when shouting close to the left meatus. Watch distance—not heard on contact. Bone conduction for tuning fork, good on both sides, but at this time the Gellé test elicited no reliable information. The nares and rhino-pharynx were in fair condition, save for a small table of adenoid tissue in the vault of the rhino-pharynx, which in no way impigned on the tube.

A careful and thorough course of treatment was carried out for seven weeks. This included Politzerization and catheterization, with the various applications to the left Eustachian tube through the catheter. Massage by Sieglé, as well as through the Eustachian catheter—the whole gamut. The result, as to the improvement of the hearing in the left ear, at the end of this period, was absolutely negative. The patient was determined to be benefitted at all hazzards, if possible, and she was advised that an operation *might* benefit her for a time at least, and as the ear in its then condition was absolutely without value, the risk of injury to the hearing was *nil.* Gellé at this time indicated that an operation would probably result favorably, but the accuracy of the answers given was questioned later.

On Feb. 3, 1897, the inco-stapedial joint was cut, under cocaine anæsthesia and strict asepsis, after the usual manner. A 4 per cent. solution of cocaine was used for anæsthesia and $\frac{1}{1000}$ Hg Cl_2 for the asepsis. Cutting the joint did not apparently improve the hearing in the slightest degree, nor did the somewhat violent attempts at mobilization of the stapes, although some dizziness resulted from the latter.

On Feb. 4th, the patient reported having had but slight pain during the night. Further mobilization was attempted. Again no result.

Feb. 10th, I removed the incus and again attempted forcible mobilization, with no result, excepting that at 1 o'clock of the following morning (nine hours after the operation) the patient awakened with vertigo and vomiting, which passed away in a few minutes, and the next morning she felt no ill effects, and walked six blocks for treatment. The opening in the drum was now allowed to heal shut, and the patient advised to make no further attempt to regain her hearing.

On May 13, 1897, however, she returned, and was so persistent in her request that something more be done, that a further step was decided upon.

An incision having been made in the posterior-superior quadrant of the membrane, the outer end of the small blunt Dench knife was entered beneath and above the stapes and the handle gently rotated with the knife in each position. At this stage the patient started violently, causing the knife to describe a rapid unguarded circuit, which caused excessive pain. Upon inspection, the incision of the tympanic membrane was found to have been enlarged anteriorly, and the sharp pain was probably due to movement of the malleus by the knife. A small amount of serous fluid followed the knife out, but the pain soon passed away and there was no dizziness. After aseptisizing the fundus anew, the patient sat down in the reception room for a few minutes preparatory to going home. In about five minutes, she said that a warm fluid was running from her ear, which had saturated her handkerchief. In a very few minutes, two handkerchiefs were completely saturated with the fluid, the quantity of which was estimated at more than a drachm. When lying on the opposite side of the head, the ear would well full of this fluid in less than ten minutes. The external meatus was therefore packed firmly with iodoform gauze, which had been previously soaked in oil, and the patient sent home. An hour later, the discharge had somewhat abated, but was still oozing. Upon reaching home, she had climbed four flights of stairs to her room, after which a severe pain set up all through her head; this was relieved by lying down. On the following morning she awakened with a severe headache, which responded to bromide and chloral mixture. The fluid was still oozing somewhat freely. The oozing continued until evening, when the discharge became so rapid that repacking became necessary. She was put on liberal milk and broth diet, kept in bed, and the oozing continued for four days, with occasional remissions, but no absolute cessation.

During this time the patient was free from pain and dizziness. The pulse, at one time, was as low as 50 and soft. After the removal of the packing, the spoken voice could be heard at six inches on the affected side. This improvement of hearing remains, to a somewhat lesser degree, at the present time. The quantity of fluid lost in this case was excessive, and the interesting feature is to account for its source. There may have been a cyst located in the neighborhood of the point of operation, the opening of which might have caused the flow and relieved the deafness. This theory is very unlikely. On the other hand, the knife is too delicate to fracture any petrous bone which I have ever seen.

To have opened up the tegmen in this position, the facial nerve must have been injured.

If the first turn of the cochlea was opened, or even if the entire ledge between the foramen ovale and the foramen rotundum was broken through, the flow was seemingly too large and rapid to be accounted for. Then, too, the hearing returned after the operation, which would probably not have been the case in the latter contingent. Is it not likely that the facial canal was opened, and the subdural fluid oozed out by way of an unusually large acqueductus fallopii?

Upon the cessation of the flow, the patient made a rapid recovery and she is now more than pleased with the result.

34 S. 18th St.

FRACTURE OF THE CARTILAGINOUS EXTERNAL AUDITORY CANAL, RESULTING IN COMPLETE OCCLUSION—OPERATION.

BY M. A. GOLDSTEIN, M.D., ST. LOUIS.

Through the courtesy of Dr. F. C. Bæcht, of Brussels, Ill., who referred this interesting case to me, I am enabled to present a complete clinical report. I append Dr. B's record, prior to our consultation:

"J. S., butcher, aet. 39, while quartering a beef, was struck on the left side of the face, with the end of the handle of a windlass, by the sudden 'giving-way' of the apparatus from which the animal was suspended.

"The blow made a deep but clean-cut wound, extending from the inferior maxilla, about one inch anterior to the angle, upward to the zygoma. The direction of the wound was inward and backward, the two last molar teeth of the lower jaw were knocked out, and there was a small opening into the buccal cavity. The inner area of the wound could not be explored, owing to patient's inability to separate his jaws.

"The blow also fractured the anterior and inferior walls of the cartilaginous portion of the external auditory canal of the left ear, pushing the fragments, together with some of the surrounding soft tissues, into and completely occluding the canal.

"I tried to press it back into place, but it resisted all efforts; not knowing how much of the canal was involved, I decided to let it alone, thinking this portion would become detached later.

"The wound was thoroughly cleansed, first with soap and water, then with 1 to 2000 hydrarg. bichlor., and packed with iodoform gauze. Two days later, when removing the dressings, same were found completely saturated with a serous fluid, which, on investigation, was found to flow from the ear. This led me to suspect a fracture of the petrosa. Dressings were changed daily for one week, when all discharge stopped.

"Two weeks after the injury, the wound of the face had healed, and the only complaint was a decided deafness in the left ear."

One month later Dr. Bæcht brought the patient to my office. An examination of the ear revealed:

A complete occlusion of the external auditory canal, at a point about one-half inch from the meatus. The obstructing mass presented a smooth surface, and the dermal covering of the canal was continued over the tumor. A very thin probe revealed the attachment of the mass to the floor of the canal and also partial adhesion to the lateral walls. After some manipulation, the probe could be passed between the superior wall of the canal and the convex surface of the tumor. To the touch of the probe the mass felt slightly elastic, like contact with cartilage.

The tuning fork and watch tests determined hearing good by bare conduction, and *nil* by air.

As a precautionary measure, I made a small incision through the skin and found the underlying mass composed of cartilage.

After application of 10% cocaine solution, I cut a small piece from the upper convex surface of the mass, in order to allow of more room for manipulation. The knife employed was a straight, narrow, probe-pointed bistoury. I then made a U-shaped incision, with the apex reaching to the floor of the canal. As the obstruction was composed entirely of cartilage, the cut was readily and smoothly made. The depth of the mass was about one-half inch. With its removal the canal was left clear throughout its entire course. The membrana tympani was seen to be intact, but slightly congested. A tightly-wound cylinder of cotton, dusted in boracic acid, was introduced into the canal, and the patient instructed not to touch same. In three days a new cylinder was substituted, and this procedure continued until all danger of cicatrization had passed. The recovery was complete, the canal pervious, and normal hearing was restored.

The case presents several interesting features. First, the remote area of the original injury. Second, the peculiar fracture of the cartilaginous canal. Third, the simplicity of the operation.

A Frequent Significance of Epistaxis. Dr. J. H. Fruitnight. (*Medical Record*, May, 1897.)

Frequent nose-bleed in children commonly accompanies chronic valvular heart disease, mitral obstruction and aortic regurgitation being the usual forms.

(This symptom is also a frequent manifestation of adenoid vegetations in the pharyngeal vault. By their mechanical action they cause a venous stasis in the turbinated bodies, the movement of which at times gives way, and so causes the symptom under consideration.)

M. D. L.

Fracture of the Cricoid Cartilage. Dr. G. B. Story. (*Medical Record*, May, 1897.)

Patient, a male, thirty-two years old, was struck on the right side of the neck by a piece of wood from a log which was being sawed, fifteen feet away from his position at the time of the accident. He was seen thirty minutes after the accident, and his breathing was difficult and stridulous. Cough was frequent, and he expectorated frothy and bloody mucous. There was distinct emphysema of the neck and lower portion of the face. When first seen he was able to speak in a weak but very light-pitched tone of voice, but complete aphonia soon followed. Patient was ordered to be moved to the hospital with the view of performing intubation or tracheotomy, but he had been carried but a short distance when he expired. At the autopsy, a few hours after his death, the entire body was emphysematous. The eyeballs protruded and the pupils were dilated. There was bruising of the pneumogastric and recurrent laryngeal nerves and a fracture of the left side of the cricoid cartilage, extending through the attachment of the cricoid-thyroid muscle. Emphysema, œdema and hemorrhagic infiltration of the glottis was also present. Patient died from asphyxia.

M. D. L.

CORRESPONDENCE.

St. Louis, August 25, 1897.

Editors The Laryngoscope:

I am in receipt of a clipping from a German publication, sent me by a gentleman who had read my essay on "The Nose," in the August Laryngoscope, containing in substance the following:

It seems a recent issue of the French journal, *La Nature,* reported a case of a man who could see with his nose. Commenting on this, a Bologna medical journal affirmed that it was nothing new, since such phenomena had been observed one hundred years ago. Thereupon, it proceeded to state that a case of nasal vision was recorded on page 82 of a certain book in the Bologna University Library. This book is by the German, Johann Zahn, was published in Nüremberg, 1802, by F. E. Adelburner, and is entitled "Oculus Artificialis Teledroptricus Sive Telescopium Est." A peasant lost his right eye in childhood. Later in life he fell from a cherry tree, striking in a thorn bush, lacerating his face and tearing his left eye-ball from the socket. A year later, being entirely blind, while working in his garden, he seemed to perceive light through his nose. Acting upon this suggestion he practiced visual exercises with his nose for five years, and was finally rewarded by being able to discern objects below that organ, but could see nothing above it. The author cites as witness the celebrated Dr. Heinrich Svezius.

No one who has read the undersigned's essay will question his estimate of the nose and its possibilities, but—well, the cherry tree association, at least, is suggestive of verisimilitude.

In this connection, I may make mention of the fact that the Australian savages are employed by the police of that country to track their kind who have infringed the law. They get down on all fours and scent the tracks after the manner of animals. Very soon after being placed in civilization they lose this faculty.

Fayette C. Ewing, M.D.

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EDITORIAL.

CONDENSATION.

With the birth of the numerous medical periodicals, which continually make their appearance in the literary sphere, necessity demands that this unceasing flow of original thought must be abridged, and offered to the profession at large in a concise and useful form. The Laryngoscope has taken upon itself this laudable duty, and we feel that our efforts in the past have been duly appreciated by our readers. When we consider the interesting and rich material offered before the numerous medical societies, much of which does not find its way into the current literature, owing to the want of space, it behooves us to carefully abstract such valuable data, thus eliminating the extraneous matter and avoiding the loss of practical facts. The happenings and results of the day are the subjects which interest us most.

It is for this essential reason that such reading matter should be offered to the busy practitioner in a digestible form, thus permitting of its absorption without much effort.

Though an ardent admirer of classical diction, same loses its force when one desires to get at serviceable therapeutic facts.

One picks up a journal and scans its contents. If a special subject is embellished with lengthy arguments the reader is apt to lose interest, and lays same aside without deriving the information which he expects to find.

For this important reason authors should attempt to write to the point, thus assisting the reader to acquire a ready conception of the clinical features.

THE LARYNGOSCOPE earnestly tries to follow this axiom, thus avoiding lengthy papers, if feasible, and at the same time giving to its readers a practical resume of American and foreign literature. The reports of societies, which honor us with their representation, are published in the same useful manner. We feel that by so doing one comes in touch with a far greater range of experience, and is thus enabled to apply his gleanings in a serviceable and successful degree.

LEDERMAN.

IS THE EUSTACHIAN TUBE OPEN OR CLOSED DURING THE ACT OF DEGLUTITION? CLOSED!

All our standard works that mention the functions of the Eustachian tube claim that its post-nasal orifice is open during the act of deglutition, thereby allowing a renewal of air to the middle-ear. It is for this reason that patients are directed to swallow when the physician desires to inflate the middle-ear by the Politzer method.

As early as 1868 Dr. Thomas F. Rumbold announced it as his opinion, as the result of four years' experimentation and study on the "Functions of the Eustachian Tube,"* that the prevailing idea regarding the patency of the Eustachian tube during deglutition was erroneous. He stated, at that time, that the act of deglutition *closed* the mouth of the tube. Numerous experiments made since this announcement have confirmed this opinion. Although this announcement, and the experiments from which this deduction was made, has been repeatedly published and elaborated, our text books still hold to the erroneous theory.

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*Paper prepared and read to several medical men in 1868, and read before the St. Louis Medical Society, February, 1872.

At the meeting of the Western Ophthalmological, Otological, Laryngological and Rhinological Association, in April of this year, Dr. Hamilton Stillson read an interesting paper on "Experiments on the Eustachian Tube by means of the Tongue thrust into the Naso-Pharynx,"* in which he held that the tube was closed during the act of deglutition. This he demonstrated, to his own satisfaction, by means of his tongue placed against the orifice of the tube during the act of swallowing. As the prevailing idea regarding this subject has been so firmly implanted in the minds of the profession, this overturning of accepted theories might again have gone unheeded had it not been that, fortunately, Dr. Hanau Loeb presented before the association, at the same meeting, a patient who had undergone an extensive operation for epithelioma of the nose.† In this case the loss of tissue was so extensive that direct inspection of the post-nasal orifice of the tube was possible, and it was then seen, by all present, that the tube was *closed* by, and during, the act of deglutition, thus setting at rest this disputed point, and also proving that one of the functions is *not* to allow of the renewing of air in the middle-ear during the act of deglutition.

THE EARLY TRAINING OF CHILDREN FOR THROAT EXAMINATION.

Certain throats are abnormally sensitive on account of some pathological condition, which tends to cause gagging and other reflex disturbances. In many throats, however, this is not due to any diseased process, but simply to lack of training of the individual. Where this lack of training is combined with an inflammatory process, we have a condition of irritability which is trying both to the patient and to the physician. In some cases it is so aggravated that the mere protrusion of the tongue is sufficient to produce a severe paroxysm of retching.

These disagreeable symptoms could be avoided by the early training of children for throat examination. Many mothers realize the necessity of examining the throats of their children systematically, and, no doubt, many cases of incipient diphtheria have been arrested by the prompt recognition of the first deposit in the throat. Few parents, however, go beyond this.

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*See page 38, vol. III., THE LARYNGOSCOPE.

†See page 131, vol. III., THE LARYNGOSCOPE.

A very simple procedure, and one which children soon learn to tolerate, is the depression of the tongue by means of a spatula or simply the handle of a spoon, in order to expose fully the palate, pharynx and tonsils. At first this produces some irritation, not only from the presence of the foreign body, but also by the spasmodic movements of the undisciplined tongue. This is overcome by patience, however, and the child soon learns to tolerate the spoon and to exhibit its throat with the utmost facility.

The advantage of this training is not merely theoretical, nor is it simply for the benefit of the physician. Many a little patient, no doubt, has had an untimely end on account of its inability to tolerate the application of the proper medicaments to the diseased throat. Even in the case of adults, every specialist realizes that the tolerance of the throat is an important factor in deciding between a mild internal operation or the graver external operation, or in some cases even the admissibility of an operation of any kind.

In routine cases also, both the patient and the physician are spared a great deal of annoyance by the proper training of the individual for throat examination. There are probably few cases in which this training is not practicable. The professional "sword swallower," in his early training, applies the handle of a spoon against his throat, which may be at first quite irritable, but this procedure soon effects such tolerance of the parts that later on the "swallowing of the sword" becomes an easy process.

A lady recently stated that her children had no difficulty in swallowing pills, because in their infancy her family physician had given them small bread pills to swallow in play, so that later on, when the necessary pills or capsules were to be administered, they were swallowed with equal facility.

The early training of children for throat examination is, therefore, not only useful, but may even prove an important factor in the prognosis of a disease which threatens the life of the patient. Every physician, therefore, should call the attention of the parent to the importance of early training in this matter, and show them by what simple means this end may be effected. SCHEPPEGRELL.

The many friends of Dr. M. D. Lederman, Associate Editor of THE LARYNGOSCOPE, will be pleased to learn that he intends taking another degree in life, that of Benedict. The young lady who is responsible for this radical metamorphosis in the life of our esteemed confrere is Miss Belle Weil, an accomplished member of New York society. THE LARYNGOSCOPE, editors and staff, herewith tender their heartiest congratulations.

SOCIETY PROCEEDINGS.

AMERICAN LARYNGOLOGICAL, RHINOLOGICAL AND OTOLOGICAL SOCIETY.

[PROCEEDINGS CONCLUDED.]

A Gouty Rhinolith.

Dr. H. H. Curtis exhibited a calculus that had been extracted from the nose of a gouty subject. The patient, a woman of forty-five, had presented herself with almost complete obstruction of the nose. The obstruction proved to be due to this rhinolith, which measured 1½ inches in circumference and 1½ inches in thickness. By adjusting two snares around it, enough fragments were chipped off to enable him to deliver the stone through the nostril. The stone contained no nucleus in the central cavity. There were gouty deposits in both ears and in several joints of the hands.

The Cure of Singers' Nodules.

Dr. Curtis read a paper with this title. He said that a singer's nodule was an inflammatory growth situated at the junction of the anterior and middle third of the vocal cords. These nodules were due to an injurious method of taking the tones, or using a focus of tone in such a way that attrition became possible. The damage occurred in singing what was called the upper medium register. That they were not true nodules, but the result of attrition, had been demonstrated by investigations with the stroboscope. The patient should be directed to talk, and not to sing, repeating the sound of A. While holding the tongue with a tongue-depressor, the patient is next directed to change to E. One of the first symptoms of singer's nodules was that the singer's voice became hoarse after singing. They did not necessarily come from overwork, or from cold. In opera singers he had frequently noticed nodules appear in a single night, as a result of a change from one language to another. In the acute cases the necessary exercises for their relief should be begun immediately. By a proper use of gymnastic exercises the singer was put at once into a condition for singing. The object of the treatment was to make the cords adopt a new method of vibration. By a mental effort, the singer should strive to bring the tone to the lips; the lips should be separated by dropping the lower jaw, and they should not take part in the production of the sound. If the mouth were made a resonator, the musical note would be greatly accentuated by opening the mouth. By plucking the lower lip with the finger it would be found that if the lips were in use one would at once get an answering hum. Simple exercises in singing that he had devised represented fifteen years of study of tone production. The accessory cavities of the face were the normal resonators of the human voice. It was very important that patients should not be allowed to talk during the treatment, for they talk in the medium register, and hence aggravate the trouble. The patient should be made to raise the chest, not by a respiratory effort, but purely by a muscular effort. This effort should be prolonged, and by doing this the breathing would become purely diaphragmatic, the size of the chest at the apices would be increased and the timbre improved.

Dr. G. Hudson Makuen, of Philadelphia, said that the description given by Dr. Curtis of the origin of tone was entirely new to him, and he was inclined still to believe that the primary tone began with the vocal cords, even in the nasal hum described by him. He did not understand the statement that the tone was produced independently of, and before the vibration of the vocal cord. He had examined the vocal cords of many singers, and had found singer's nodules very rarely. None of his cases had been so marked as those shown in Dr. Curtis' pictures. He thought Dr. Curtis' success with these patients was due to the fact that he had been able to teach them to use the vocal cords in the normal easy manner, beginning the tone with the vocal cords in an easy, natural position, and not with a notable click which he had so well illustrated while reading his paper. He was a great believer in the practicability of curing laryngeal troubles by normal, easy and proper use of the voice, yet he hardly felt like accepting the theory of the origin of tone as propounded by Dr. Curtis. In his own experience, singers did not produce the tone with this click, resulting from bringing the vocal cords together tightly.

Dr. Scheppegrell said he desired to thank Dr. Curtis for his interesting contribution.

Dr. Dwight L. Hubbard, of New York, said that he had tried this treatment before he had known of it directly from Dr. Curtis, as he had been taught it by a singer. Dr. Curtis' method gave rest to the vocal cords without idleness. They were brought into a position of approximation, but the resonators above, although, in his opinion not producing the height or depth of tone, did produce the quality of tone. Singers who employed this method said that the tone placement was in the face, and that the force producing the tone was in the diaphragm, when the intercostal muscles were in action, as already described.

Dr. Curtis, in closing, said he thought he had stated clearly that his object was to make the vocal cords "accept" the proper vibration by making the initial impulse come from above in exactly the same way that the air enters an organ-pipe. The air enters the latter, and at once the reed of the pipe accepts certain vibrations in accordance with the dimensions and capacity of that pipe. In putting the mind on the resonance of the face the latter is made unconsciously an organ-pipe. The air must come necessarily in the initial impulse through the vocal cords, but the idea of the pitch to be given to the vocal cords was accentuated to the patient by fixing the mind on the face and chest, and taking away from the cord the idea of production of tone. He made the cords adapt their pitch to the pitch already established by the organ-pipe above. Of course, a musical tone could not come except from the vocal cords, although certain tones could be made even where the larynx was entirely absent. He recalled the case of a man with hemiplegia who had lost his voice entirely. He was not able to make an articulate sound of any kind. He had an adductor paralysis, and it was not possible for him to communicate in any way, there being paralysis of the tongue and face. He was asked if he had ever sung, and on learning that he had, he was instructed to make a flute sound, which he did by causing a vibration of the air in the nasal cavities.

(1) Sarcoma of the Larynx.

(2) Sarcoma of Naso-Pharynx in an Infant.

Dr. T. H. Halsted, of Syracuse, reported these cases. He said that the disease was now a rare one, yet he felt sure that owing to the fact that unsuccessful cases were not often reported, the condition was not as rare as statistics would seem to indicate. His two cases—the only ones of the kind he had seen—had come under observation during the past year.

Case I.—J. H., a man, fifty-seven years of age, came to him on June 11, 1896. There was difficulty experienced in swallowing just as the food reached a point opposite the larynx. A constant, ropy secretion was expelled by coughing, and there was an excessive secretion of saliva. The laryngoscope showed a rounded, grayish, non-ulcerated tumor, sessile, and about the size of a walnut. On June 17, the tumor was removed in four pieces by the cold snare. It was examined and reported to be a large round-cell sarcoma. The patient did not return until July 17, and then it was found that the growth had recurred, and was larger than at the time of operation. Partial laryngectomy was offered as the only chance, but the patient did not appear again for six months. At that time he had severe paroxysms of dyspnœa, particularly at night. Leaning forward at any time excited great difficulty in breathing. He had lost flesh. The tumor filled the larynx. The vocal cords could not be seen. On January 29, a tracheotomy was done because of an exceedingly bad attack of dyspnœa. A week later the growth appeared at the opening in the trachea. In another week it had reached up to the base of the tongue. For these two weeks he was more comfortable than before the tracheotomy, but his general condition did not improve. He died on April 27th. For six weeks prior to death a large part of the fluid food taken would be regurgitated. The cough was a constant and distressing symptom. Codein was very effective in controlling this cough. There was slight hemorrhage at times, and on one or two occasions it became very profuse. The sufferings of this patient were so pitiable during the last two months that should another such case present itself, he would more strongly urge operative interference at an early stage, death on the table being preferable to the course of this case.

Case II.—A child of two years; respirations labored, noisy and rapid; cyanosis marked; child dull and only partially conscious. The right side of the nose was occluded by a yellowish-white growth. The soft palate was pushed forward by another mass. The attending physician had seen the child first twenty-three days before. This child's symptoms had developed at the time that there were in the neighborhood a number of children suffering from a catarrhal affection. Tracheotomy was performed, as the mother insisted upon some measure for the child's immediate relief, but it died shortly afterward.

Dr. Logan recalled a case of round-cell sarcoma of the posterior nares, which had been previously removed eight or nine times before coming under his observation. He found in the naso-pharynx a tumor about the size of an English walnut, which he removed by the gradual method with a galvano-cautery. He had seen the patient, four years later, and up to that time there had been no recurrence of the disease. Now, he had to report that three years later still, the patient had died of sarcoma of the stomach, but without a return of the growth in the posterior nares.

Dr. Dench said that he had seen a case of sarcoma of the naso-pharynx within a year or two. It had come to him with symptoms pointing to the ear. The attack came on after "grip." Only an effusion was found, and the patient was complaining of severe headache on the affected side. The vault of the pharynx contained a mass of tissue which resembled hyperæmic lymphatic tissue. As the patient was fifty-five years of age, he removed a piece and had it examined. It was reported to be fibro-lymphoma. Thinking it granulation tissue, he advised against treatment of the ear, but in favor of the removal of this tissue. An exploratory craniotomy was done by Dr. Keen, of Philadelphia. The patient died shortly afterward, and the pathological examination showed the growth to be a small-cell sarcoma.

Dr. J. E. Nichols said that he had met with four cases of sarcoma of the naso-pharynx. On two he had operated, and in two he had refused to operate. All four died. One of the operative cases lived for two years, and then died from an extension of the growth in all directions. As the growth was usually situated so far back, considerable progress would have usually been made before the condition was diagnosticated; hence, the difficulty in deciding upon operation. While a radical operation might prolong life, cure was impossible. Regarding operations on the larynx, the speaker said that one hesitated between the desire to effect a cure and the desire to relieve symptoms. He had met with three cases. In two the growth was in its early stage; the two died within ten days, one of septic endocarditis, in spite of precautions against sepsis, and the other from an unknown cause. The third case, apparently the worst of all, lived the longest. In all these cases complete extirpation of the larynx was done. He thought that, personally, he would prefer to let the disease take its course rather than submit to operation.

Dr. T. Passmore Berens, of New York, said that he had had four cases of malignant disease of the larynx. Two of them had been operated. One died of septic endocarditis; the other probably from an extension of the inflammation to the vagus nerve. He recalled a case in which the man had suffered dreadfully for eighteen months, and probably would suffer in this way for six months more, and raised the question as to whether or not most people would prefer the operation. Personally, he favored early operation, and where there was only slight glandular involvement, even a rather late operation.

Dr. Myles said that he had seen several cases of malignant disease of the larynx and pharynx. Last year he had met with two cases in the larynx; one refused operation and the other accepted. The one who was operated upon about a year ago was to-day apparently well. The other one, who had had tracheotomy performed, had nothing but misery and was anxious to die. A few months ago a case of undoubted sarcoma had come under observation. The soft palate and part of the constrictor muscles had been removed, and the dissection had been carried down along the important vessels of the neck. The growth was removed by the electro-cautery. The wound had healed kindly, and, so far, there had been no recurrence. A portion of the muscles had also been removed, because the microscopist's report indicated that the disease had spread into the muscular tissue. It would seem, therefore, that there was an advantage in operating on these cases.

Dr. Scheppegrell reported a case which had started as a fibroid tumor of the naso-pharynx. He had removed the growth, partly by the snare and partly by the cautery, doing it rapidly, because he believed this gave the best results. When the tumor recurred, another physician treated him by mild currents of electricity. The case became worse and death finally ensued. The later histological examination revealed the existence of a fibro-sarcoma.

Dr. Halsted, in closing, said that cases of sarcoma should not be confounded with cases of carcinoma of the larynx. One case of carcinoma of the larynx on which he had operated nearly two years ago had been very comfortable.

The Surgery of the Faucial Tonsil.

Dr. G. Hudson Makuen, of Philadelphia, said that two conditions of the tonsil should be considered as pathological: (1) The hypertrophied condition so common in children; and (2) the later stage of this, known as the atrophied condition. The faucial tonsil, no matter how large, did not, as a rule, interfere with breathing except when the vault of the pharynx was also obstructed; but the enlarged tonsil acted unfavorably on the surrounding tissues, irritating the parts and causing congestion and hyper-secretion. The adhesions often caused the formation of a pocket, in which the secretions collected and decomposed, and, perhaps, finally burrowed into the tissues, giving rise to a tonsillar or peri-tonsillar abscess. The atrophied tonsil was as prejudicial to health as was the hypertrophied tonsil. All measures not surgical were only slightly palliative. The indications were to reduce the size of the mass and favor cleanliness by removing the pockets or crypts. He used a blunt hook for diagnostic purposes, and a cutting hook for separating the adhesions. After such operations the raw surfaces should be seared with the cautery, and then the parts should be sprayed with peroxide of hydrogen and annointed with liquid albolene. By such precautions the patient rarely suffered from the operation. If the tonsils projected beyond the pillars they should be removed, either by the tonsillotome or by means of knives.

A method which he had found very useful in adults was the opening up of the crypts at repeated sittings, and so gradually removing the redundant portions of the tonsil.

(Discussion on this postponed until after Dr. Renner's paper.)

Primary Syphilitic Infection of the Tonsil.

Dr. Arthur G. Root, of Albany, reported the case of a man who had had the usual diseases of childhood and had had reasonably good health up to an attack of gonorrhœal rheumatism in the spring of 1894. This attack lasted for four months. During March and April of 1896 the patient contracted a cold, which affected the tonsil. The next month the same tonsil again troubled him, and it became painful and inflamed in June. At this time the man noticed a few blotches on the abdomen. When seen, two weeks later, the tonsil was the seat of a grayish ulcer, and the sub-maxillary and cervical glands were enlarged. The patient was given internally the proto-iodide of mercury, and the saturated solution of iodide of potassium, three times a day, and his diet and habits were regulated. The throat was kept in good condition by local applications, and at the present time the local and general conditions were good. In commenting upon the case the speaker said that after a careful investigation of the patient and of his mistress, he had come to the conclusion that the lesion was probably the result of kissing the girl, and that the infective agent had gained entrance owing to the inflamed condition of the tonsil.

Dr. Renner said that he had seen two cases of this kind, both of which had deceived him for two weeks, or until the secondary symptoms had developed. In both, his original diagnosis had been quinsy. He inquired the reason for using iodide of potassium so early in the treatment of the case reported.

Dr. Root said that he did not believe in the division of syphilis into primary, secondary and tertiary, the line of demarcation being too vague. In a general way, he approved of using iodide of potassium in the later stages chiefly.

Surgery of the Inferior and Middle Turbinated Bodies and Bones.

Dr. R. C. Myles said that operative interference was indicated in cases of hypertrophy, congestion and polypoid changes in the middle turbinate, where the turbinates obstructed operations upon the accessory sinuses, etc. It is his custom to render the nasal vestibule aseptic before operating upon the tnrbinates, carefully cleansing the parts with alcohol, and afterwards with a 1:1000 solution of bichloride of mercury. He used ordinary piano wire, Nos. 3 and 5, in the snare for removal of the inferior tip. He firmly believed that in some cases the removal of the inferior body was absolutely demanded. After thorough cocainization he made slight section through the bone anteriorly with a saw. He next inserted a Knight's scissors and made a section between the periphery and the attachment of the bone. Bosworth's snare was next introduced over the posterior part of the bone. The operation should never be performed when the septum was straight, the vestibule large and the fossa roomy. In certain cases in which the turbinates were hard and extended downward, and especially in gouty and rheumatic subjects, turbinotomy had given almost magical relief, and had been attended in his hands by no bad consequences. Bosworth's snare had proved to be the most useful instrument that he possessed for operating upon these cases. Submucous injections of acids and the electro-cautery were occasionally useful. He had had several cases of serious hemorrhage after the removal of the inferior turbinate, although never after the middle turbinate. The hemorrhages occurred from a few hours to a week after the operation. It was easily stopped by inserting a tampon of cotton saturated with tannic acid and gallic acid.

Dr. Cline said that this Society should take a stand against the present fashion of turning out throat and nose specialists after a few weeks of instruction in some medical centre. He cited a case in which, after an operation by one of these amateurs, secondary hemorrhage occurred and nearly cost the patient his life.

Dr. Cobb asked how much time was consumed in sawing off the posterior turbinate, and whether the incision was made with a straight, or curved scissors before putting in the snare.

Dr. Myles said that he preferred Knight's scissors, and the operation should not occupy more than half a minute. He thought it perfectly safe to operate in this speedy manner.

Dr. Hubbard said that he had operated many times upon the inferior turbinate in the manner described by Dr. Myles, but packed the separated part against the bone by the use of an astringent tampon. This caused an adhesion, and a hyperæmia of the separated part would be found entirely relieved in a number of days. He had found this an excellent method of relieving stenosis in a number of cases, instead of removing the part completely.

Dr. Snow said that in the turbinated bodies, he believed, was to be found the key to the successful treatment of most of the catarrhal diseases.

Dr. Myles said that he had seen a number of cases in which it had seemed to him the turbinates had been unnecessarily removed. Teachers should insist upon saving the turbinates unless there was a distinct and definite object to be gained by their removal.

The Treatment of Suppurative Diseases of the Accessory Sinuses and of the Ear by Ozone Vapor. Exhibition of the Apparatus for the Generation and Application of the Ozone.

Dr. William Scheppegrell, of New Orleans, read a paper on this subject. He said that the most economical and practicable method of generating the ozone was from the air. The nitrogen products were so infinitesimal that it was not necessary to remove them. The air from which the ozone was generated was supplied from the usual air reservoir, and the ozonizer was operated by an induction coil like that used for generating the X-rays. The ozone should not be heated higher than the temperature of the body, otherwise it would be decomposed. The concentration of the ozone was more easily controlled by regulating the induction coil than by regulating the quantity of air admitted to the ozonizer. The application should not be made for more than fifteen or twenty minutes, and should not be repeated more than twice a week. It should be given during expiration, and not inhaled. If inhaled, it would cause irritation and headache. Ozone not only inhibits the growth of micro-organisms, but also destroys them on the culture medium. He had obtained very satisfactory results with the ozone treatment in diseases of the upper air passages. The method was simple and inexpensive.

Report of a Case of Abscess of the Nasal Septum.

Dr. L. C. Cline, of Indianapolis, reported the case of a girl of twelve years, who had been treated for a muco-purulent discharge. Some months later she fell and struck the nose. There was considerable pain and hemorrhage, and an irregular practitioner being called in, diagnosticated typhoid fever, and proceeded to treat her for the same. When he saw her there was an abscess of the nasal septum with marked displacement and injury to the bony structures. This case was one of septic fever, due to traumatism and negligent treatment. As a rule, the abscess involved only the cartilaginous portion of the septum. The case emphasized the necessity for more attention being given to these seemingly trivial injuries to the nose.

Dr. Phillips said that, in the several cases of abscess of the septum that he had seen, the cause had been traumatism; hence, general practitioners should be alive to the possible serious consequences resulting from blows on the nose, so commonly received by children. Many nasal deformities had such an origin. He had never met with abscess of the nasal septum in children.

Chronic Follicular Tonsillitis.

Dr. W. Scott Renner, of Buffalo, said that chronic follicular tonsillitis was characterized by the formation of plugs of secretion resembling comedones. They were frequently the cause of an offensive breath. The tonsils themselves were often more or less hypertrophied, but not infrequently they were atrophied. Sometimes the patient complained of pain about the throat and ear, although occasionally they suffered from more or less obscure neuralgias. Patients who were subject to frequent attacks of quinsy were likely to have chronic follicular tonsillitis, and the removal of the tonsillar disease would do much to lessen the number of attacks of quinsy. Several cases were cited in which the voice had been impaired, or a cough kept up by the plugging up of a tonsillar crypt. The first indication for treatment was to open and destroy every crypt, and the second was to remove or destroy all the diseased mass of tonsillar tissue. It was important that all adhesions between the tonsils and the pillars should be broken up before any attempt was made to excise the tonsil. The cold snare would often effect a more thorough removal of the tonsil than would the tonsillotome.

Dr. Cline said that the small cheesy masses in the tonsils caused more suffering than perhaps any other one thing. A positive indication of trouble in the tonsil was a red ring around the pillars, even though the tonsil was not visible. His plan was to use a strong solution of nitrate of silver (gr. xl: oz. j). With the galvano-cautery he would operate upon two or three crypts at a time.

Otitic Brain Disease.

Dr. C. A. Thigpen, of Montgomery, Ala., reported the case of a patient who had had an attack of grip, followed by earache, and later by chilly sensations and elevation of temperature. Examination showed the drum membrane lustreless; hearing at a distance of two feet; temperature, 101.4°F; pulse, 100. Behind the ear were slight swelling and tenderness. Near the external auditory canal and mastoid region there was no tenderness. On exploratory incision, he was surprised to find that the purulent process extended into the skull; the pus had passed along the mastoid groove and had finally escaped at the junction between the occipital and parietal bones.

A second case was reported—one of chronic mastoiditis. The tympanic cavity was entered and the ossicles removed. Shortly after her discharge from the hospital she had had a severe chill, followed by severe pain in the head. A second operation was done and the lateral sinus exposed. Some of the blood was withdrawn and found to be normal. The patient's condition being very bad, further operative interference was discontinued; nevertheless the patient reacted slowly and eventually recovered.

A third case was that of a man who presented a red and bulging membrane. He was relieved temporarily by paracentesis, but in two or three days it became necessary to do a mastoid operation. No pus was found on opening the mastoid, and permission to go further had not been obtained. The operation was stopped, and he asserted the next day that he was much better. However, he became septic, and it was three months before he finally recovered.

A fourth case was a young man of nineteen years, who had suffered from otorrhœa, and more recently from nausea and vomiting. When first seen his temperature was 102° F.; the discharge from the ear was offensive and the mastoid region tender; he was quite stupid. The mastoid contained a small quantity of offensive pus, and offensive pus was also evacuated from the middle cranial fossa. He reacted well from the operation, but developed twitchings of the face, which continued with increasing severity for three days. An exploratory operation was then made over the fissure of Rolando, and about two ounces of thick, offensive pus escaped. After recovery from the anæsthetic, violent convulsions of the body ensued. He died the next day. Between the dura and the external osseous wall was a collection of pus which had been carefully walled in. There was a large pus cavity at the base of the tempero-sphenoidal lobe.

Mastoiditis with Thrombosis of the Lateral Sinus and Jugular Veins.

Dr. Ewing W. Day, of Pittsburg, read a paper on "Mastoiditis with Thrombosis of the Lateral Sinus." (See page 110, THE LARYNGOSCOPE, August, 1897.)

Dr. E. B. Dench said that at the last meeting he had presented two cases of brain abscess that had been successfully treated. Since then he had had three cases of sinus thrombosis. The third case was in an infant upon whom he had performed a mastoid operation a year before. In the interval the child had been perfectly well. On opening the old site of operation, he found the sinus plugged with a thrombus. This was removed and the wound packed. Recovery ensued. The other case was a man, twenty-two years of age, who had presented all the signs of mastoiditis. About four days later his temperature rose to 105.5° F., and on exposing the sinus, a thrombosis was found and removed. In another case there was beginning involvement of the lateral sinus, which was only discovered at the completion of the mastoid operation. The wound and sinus were packed and the patient recovered without further trouble. These cases abundantly confirmed the wisdom of these efforts at intra-cranial surgery.

Dr. F. L. Jack, of Boston, said that in these mastoid operations it was always difficult to decide just how far the operation should be carried. He referred to one case—an acute one—in which the temperature fell immediately after the operation and the removal of pus from the mastoid cells. After a week there was chill and fever, and on second operation a very minute spot of softened bone was found near the lateral sinus and was removed. He was quite sure that this was not present at the first operation. The patient became pyæmic and finally died.

Dr. Thigpen said that he always stated at the outset, to his patients with mastoid disease, that it was quite probable that two operations would be required. It was his practice to have the temperature taken every two hours after the operation, as he had found by sad experience that this was necessary.

Microbes in Suppuration of the Ear.

Dr. George M. Merritt (*Occidental Med. Times*, May, 1897) introduces his paper with the statement that "no suppuration occurs without the presence of microbes. The question arises, how do microbes reach the middle ear, when the drum is intact?" This may occur, in his opinion, through the circulation and stapes occurring in the capillaries of the mucosa of the middle ear, producing an abscess, which ruptures into the cavity; this he believed quite rare, but possible. The most common occurrence is due to direct extension of the disease by way of the Eustachian tube from the throat. Miller has isolated twenty-two different species of microbes in the mouth and others have there found virulent bacteria.

In middle-ear suppuration, the severest complication, namely, intra-cranial inflammation, is, according to Moos, produced by the streptococcus and the diplococcus of pneumonia. This latter is found mostly in the otitis following pneumonia, or in that due to "catching cold;" the streptococcus occurs more frequently after traumatism, or due to foreign bodies. The writer exhibited a number of cultures that had been made at the laboratory of the San Francisco Polyclinic from middle-ear pus, showing the various microbes. In some cases mixed infection was present. F. B. E.

BOOK REVIEW.

Atlas der Histopathologie der Nase, der Mundrachenhœhle und des Kehlkopfes.

Edited and arranged by Dr. Otto Seifert and Dr. Max Kahn, of Würzburg, Germany. Large folio map, containing 77 chromolithographs on 40 plates, with accompanying explanatory text. Published by J. F. Bergmann, Wiesbaden, Germany. American agents, Lemcke & Buechner, 812 Broadway, New York. Price of Atlas complete, $6.75.

This handsome and complete Atlas stands without an equal in the field of the Micropathology of the nose, naso-pharynx and larynx, and embraces every possible pathological condition of these organs.

The plates are carefully executed from microscopical sections obtained and prepared by the authors individually. These plates are exact reproductions, beautifully and truly colored, and constitute a reference volume of exceptional value to every rhinologist and laryngologist who desires to familiarize himself with the microscopical anatomy of his specialty.

The elegance and beauty of this Atlas are the highest examples of the printers' art, and the price sufficiently moderate to place the volume within reach of all.

The fact that the edition is a German one should not deter the English reader from owning a copy, as the principal merit of the work lies in the plates.

A Collection of Essays Relating to Diseases of the Nose, Ear and Throat, considered from the standpoint of the General Practitioner. Edited by Dr. Maximilian Bresgen, of Frankfurt-on-Main, Germany. Vol. I. has just been issued from the press of Karl Marhold, Halle, Germany; octavo, paper bound, pp. 416; price, $3.60. American agents, Lemcke & Buechner, New York.

This excellent collection of German Essays consists of the following:

1. "The Relationship of Angina to Acute Rheumatism." By Dr. H. Suchannek, Zurich.

2. "The Significance of Nasal Catarrh in Children." By Dr. Emanuel Fink, Hamburg.

3. "The Relationship of Acute Suppurative Affections of the Middle Ear to the General System." By Dr. Heinrich Schmalz, Dresden.

4. "Hemorrhages of the Upper Respiratory Tract, considered from a General and Special Standpoint." By Dr. L. Rethi, Vienna.

5. "Adenoid Growths as a Partial Indication of a Hyperplasia of the Lymphatic Areas of the Pharynx and their Relations to the General System." By Dr. Hopmann, Cologne.

6. "Suppurations of the Nasal Accessory Cavities, and their Sequellæ." By Dr. L. Lichtwitz, Bordeaux.

7. "Speech-Impediments in the Young in their Relations to Diseases of the Upper Respiratory Tract." By Dr. T. S. Flatau, Berlin.

8. "Deformities of the Nasal Septum, considered Specially and Generally." By Dr. L. Rethi, Vienna.

9. "Systemic Diseases and Diseases of the Nose and Throat in their Relations to the Ear." By Dr. Max Hagedorn, Hamburg.

10. "Scrofula its Character, and Relations to latest Tuberculosis of the Tonsils, Cervical Lymphatics and Neighboring Organs." By Dr. H. Suchannek, Zurich.

11. "Foreign Bodies in the Ear, their Treatment and Relations to the Surrounding Areas." By Dr. R. Hoffmann, Dresden.

Each essay is a complete monograph, and the prominence of the excellent array of authors is a guarantee of their value. They will be found of interest both to the General Practitioner and Specialist.

BOOKS AND PAMPHLETS RECEIVED.

"Direct Autoscopy; Kirstein." By Robert Levy, M.D. Reprint, *Gross Med. Coll. Bulletin.*

"Some of the General Principles which should govern Operating for Otitic Brain Disease." By J. Orme Green, M.D. Reprint, Proceedings of Annual Meeting of Massachusetts Medical Society, June, 1897.

"Exaggerated Arytenoid Movement. Anchylosis of the Crico-Arytenoid Articulation." By Robert Levy, M.D. Reprint, *Annals O. and O.*

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ORIGINAL COMMUNICATIONS.

ATROPINE RHINITIS.

BY LEWIS S. SOMERS, M.D., PHILADELPHIA, PA.

The term atropine rhinitis is here used to designate a form of irritation of the Schneiderian mucous membrane and turbinal cavernous tissues, from the effects of atropine instilled into the eye and passing through the lachrymal canal, exerting its local influence on the tissues of the nasal cavities. When atropine is applied in minute amounts to the nasal tissues, there is produced dryness of the mucous membranes; as the amount of the drug is increased, we find, in addition to the dryness, signs of beginning irritation, the turbinal cavernous tissues becoming more red in color than normally and at the same time there is a total lack of secretion, presenting a dry, glazed appearance very similar to that seen in the first stage of an acute coryza. As the amount of atropine is still further increased, we have, in addition to the two symptoms already mentioned, a feeling of heat and discomfort in the nasal chambers, and if examination be now made, it will be found that the turbinals are congested and the secretions increased. The reflex action of the parts are lessened or entirely abolished, with loss of the vessel tonus.

When applied locally, atropine is an irritant and in small amounts stimulates the vaso-motor centers. In large amounts, when applied directly to the tissues, the peripheral nerve filaments are paralyzed, due to a direct local action of the drug. The effects as studied by numerous observers on muscle tissue are peculiar, inasmuch as the drug first stimulates and finally paralyzes involuntary muscles, while no effect, even when used in large amounts, is seen with striped or voluntary muscles. As the venous sinuses, composing in great part the turbinal tissues, are surrounded by unstriped muscular fibers, we can readily see, from what has just been said, the effects of atropine on this portion of the nasal tissues.

In ophthalmological practice the strength of the atropine solution, generally used to produce mydriasis, is four grains to the ounce of water and but one minum is used in each eye, at the same time pressure is made with the finger over the lachrymal duct so that the solution will remain and be absorbed. It is sometimes necessary to use a number of drops of the solution in both eyes for several days, until the proper amount of mydriasis is produced. Occasionally the patient is given the solution, with directions as to the amount to be instilled into the eyes until the desired effect is obtained. Frequently no directions are given as to compressing the lachrymal duct and the larger amount of the solution escapes into the nasal cavity; the number of instillations being increased to dilate the pupil, so as to compensate for the amount lost *via* the nasal duct. In the majority of cases there are no ill results from the atropine remaining in the nasal chambers, but in a smaller proportion, either from an excessive amount of the drug being used, or from a peculiar idiosyncrasy of the patient, atropine rhinitis results.

The following case will illustrate the condition: M. P., age eleven years, female, white. Was first seen on March 30, 1897, complaining of a constant watery nasal discharge. Her mother stated that on March 6 she went to the eye clinic of a large general hospital on account of some impairment of vision. A number of drops were instilled into both eyes, which were afterwards ascertained to be atropine of the usual strength used for refractive work. No untoward symptoms were noticed until the evening of the same day when emesis occurred, without nausea, and has continued until the present time. On the following day she complained of a post-nasal discharge of a watery fluid, which was accompanied by a free anterior discharge; this was then like water and in it were masses of thick mucous. Previous to the use of the drops there had been no subjective or objective signs of nasal trouble.

On examination of the nasal cavities both sides were seen to be affected; the turbinals, and especially the inferior, were pale in color, with that sodden appearance as observed a few days after the onset of hay fever, and they were soft and "boggy" to the touch of the probe, giving one the feeling as if the tissues were relaxed. From the surface of the mucous membrane a clear serum was transuding in considerable amounts, the nasal cavities filling immediately after the removal of the previous discharges. The mucous membrane was macerated from the excessive irritation, which had nearly passed away before I saw the case; this had extended to the muco-cutaneous junction of the vestibule, the upper lip being red and irritated from the acrid secretions. The treatment consisted in cleansing the nasal chambers with a mild antiseptic, alkaline solution followed by mentholated albolene, two grains to the ounce, the irritated areas being then covered with an ointment composed of two grains of the yellow oxide of mercury to the ounce of lanoline. Recovery ensued in a few days, no other after effects of the atropine being observed, and the nasal tissues rapidly regaining their normal condition.

This case was undoubtedly due to an idiosyncrasy to atropine, being analogous to the effects seen in a minority of cases when the drug produces the peculiar so-called "atropine conjunctivitis" in unduly susceptible individuals. In these cases a minute amount will produce irritation of the conjunctiva, with swelling and erythema of the skin of the eyelids and surrounding region. (Juler.) It then being necessary to discontinue the use of the drug, when the irritation promptly ceases. In persons possessed of this peculiarity of the nasal tissues, the use of atropine as a mydriatic must be stopped and the nasal irritation promptly disappears under the use of soothing local applications.

There is another condition that I have met with as the result of the excessive use of atropine instillations, occurring in children, not from any undue susceptibility to atropine, but from its continued use in the eye. In some ocular affections when a continuous mydriasis was desired and the patient allowed to use one or two drops of the one per cent. solution in each eye, three times daily for one or two weeks, we will find the condition presently to be described. In the majority of cases from the use of the drug in both eyes the nasal affection is bilateral, but in a much smaller number the solution has been used in but one eye and then the nasal changes are unilateral, occurring only in the nasal chamber corresponding to the atropinized eye. In the cases where both nasal chambers have been saturated with the atropine solution for several days, we find the turbinals enlarged from passive congestion; on the surface they are gray in color, from the sodden and macerated epithelium which comes off in flakes;

underneath the epithelial layer the cavernous tissue is a deep red, from the large amount of blood in the sinuses, their walls being relaxed and active transudation of serum taking place constantly; this with obstruction to nasal breathing being the two main symptoms complained of by the patient.

The septal mucous membrane also partakes of the same characteristics as seen in the turbinal tissue and the cavernous tissue of the septum is more or less prominent from the desquimated epithelium. The olfactory portions of the nose are unaffected as a usual rule, but a moderate amount of anosmia is sometimes observed. When the irritation is unilateral we find the same changes as just noted, the other nasal chamber remaining normal. This sub-acute form is a continuation and later stage of the acute affection as seen in the case previously described. As this form is seen by the rhinologist later in its course than the acute cases, it is impossible to accurately describe the first effects of the atropine on the nasal mucosa. I have seen a number of cases affected in this way and they all present the same characteristics, resembling to a great extent the changes and symptoms, except excessive sneezing, as observed in hay fever.

The nasal septum is never ulcerated to any depth, nor is perforation seen, but superficial areas of epithelial necrosis are constant, especially along the inferior edge and anterior cartilaginous plate. All the cases were in girls, from five to fourteen years of age, not any being observed in the male sex, and I have never found the condition in adults. The general health of the patients seemingly bearing no relation to the susceptibility to the drug, as all the children were in fair physical condition. No marked chronic changes in the nose or naso-pharynx were observed, the irritation apparently not being due to any previously existing catarrh.

With certain drugs, when taken internally, we frequently have rhinitis resulting, either from an excessive dose or from the susceptibility of the patient; as an example of this class we may take iodide of potash, in some cases a minute dose producing violent inflammation of the mucous membranes. I recall the case of a young woman, seen several years ago, in which one grain of iodide of potash produced an intense form of coryza.

Rhinitis, due to atropine, resembles to some extent those cases of hay fever caused directly by some definite object, such as certain fruits or animals, or various medicinal agents, as ipecac, sulphur and lycopodium. The condition of the nasal mucosa is very similar in these cases, inclining me much to the opinion that a close relationship exists between the two affections. Morrell Mackenzie, although not mentioning this condition in his work on the nose and throat, describes a somewhat analogous condition under the head of traumatic rhinitis, due to minute particles of irritating substances suspended in the atmosphere and directly irritating the nasal tissues. These irritants may be in the form of vapor, as ammonia or chlorine gas, or solid particles, as the dust from various metals, etc. In traumatie rhinitis, the mere irritation is not in *toto*, sufficient in all cases to produce the irritation of the nasal mucosa, as we frequently find that of two persons subjected to the same amount of irritation, one will show no effects, while the other will have a violent coryza in a few hours, or even immediately after exposure to the exciting cause. This, of course, is what occurs in "atropine rhinitis," the minority of individuals only being affected when the drug is used for ophthalmoscopic purposes.

The eye containing the atropine is affected but slightly, typical atropine conjunctivitis not occurring when the nasal tissues are affected and in the larger class of cases the drug having no deleterious effects upon the organ of vision, while in one or two cases seen, a mild grade of conjunctivitis existed coincident with the instillation of the mydriatic, not severe enough to require special treatment and disappearing as the nasal irritation cleared away.

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Worms in the Nostril.

Though many causes are offered as the excitant in recurring epistaxis, the history of the case reported by Dr. H. M. Folkes in the *Medical Record*, May 8, 1897, is decidedly novel. Male negro, aged twenty-four, complained of nose-bleed and pain in the head. An examination revealed some fever, right side of face much swollen, very large nostrils, and a mass of screw-worms in the right nostril as large as a pecan. With a forceps the doctor succeeded in recovering forty-one live worms, and at a second sitting thirty-seven more taken away. An alcoholic solution of chloroform was sprayed into the nostril, and in all one hundred and thirty-one worms were removed in five days. Up to the time of the first removal the patient did not realize the nature of his disease, but when he observed the first worm he mentioned that he blew four or five of the "things" out of his nose the same morning. He had a nasal catarrh, which probably accounted for the deposit of the larvæ. M. D. L.

CATAPHORESIS IN OTO-LARYNGOLOGY.

BY W. SCHEPPEGRELL, A.M., M.D., NEW ORLEANS.

Cataphoresis is the property of electricity of diffusing fluids and substances through other fluids and substances. It is known under a variety of terms, many of which have been added since the adoption of the galvanic method of cocaine anæsthesia in dentistry. Among these names are: "electric transportation," "electric transfer of particles and liquids," "anaphoresis," "anodal diffusion," "electric osmosis," and "electric medicamental diffusion."

Some writers explain cataphoresis on the principle of osmosis. In this process, when two liquids of different density are separated from each other by a porous septum, the fluid of the lesser passes to the fluid of the greater density. This is a slow process, the rapidity depending upon the difference of density of the two liquids and the thickness and character of the intervening septum. If, however, the positive pole of a galvanic battery is connected with the liquid of lesser density, and the negative with the other, this process is so rapidly increased that in a few moments it has advanced as far as it would have done in several hours in simple osmosis.

These writers claim that when we place on the outer surface of the skin or mucous membrane a solution of greater density than the plasma within the tissue, the influence of the drug, which would be very slow or even imperceptible by the ordinary osmotic process, rapidly takes place, and in this manner we may impregnate the tissues with cocaine, iodine, guaiacol, etc., according to the indications of the case.

The theory that cataphoresis is due to a purely physical action of the current, and that all medicaments must be placed at the positive pole of the direct current, is not accepted by many investigators, such as C. M. Hanyes (1), these holding the opinion that in all cases the medicaments are decomposed by the action of the current, the products of such decomposition moving towards that pole for which they have an affinity, and while it is true, in electro-therapeutic work, that we nearly always place the medicament upon the positive pole, this is only because the great majority of substances, whose effect we wish to obtain, are electro-negative in character. This theory more fully explains the various phenomena of cataphoresis and corresponds with my investigations of this subject.

Faraday gave the name *anion* to the products of the decomposition which appear at the anode, or positive pole, and *cation* to those which appear at the cathode, or negative pole, the term *ions* being generic for both products. He believes that the anions are attracted by the positive pole, because they are the same potential as the negative, and are therefore repelled, and that the cations are attracted by the negative pole, because they are repelled by the positive, with which they are of the same potential.

This principle should be remembered in the application of cataphoresis. Iodine, like oxygen, is an anion, and has an affinity for the positive pole, and where iodide of potash or other iodine compounds are used in the treatment of goitre and the resolvent effect of the iodine is desired, they should be applied to the negative pole, so that the iodine will be attracted towards the positive. If the iodide of potash solution is applied to the positive pole, the iodine will be liberated at this pole, so that we have the local and not the cataphoric effect of the iodine.

Morphine sulphate, quinine sulphate and cocaine muriate belong to the class of bases which are cations, and therefore have an affinity for the negative pole. When these, therefore, are used, they should be applied to the positive pole, so that, in their passage towards the negative, we may obtain the effects of these medicaments. Where iodine is used on the positive electrode, its therapeutic effect is but little more than the local application of iodine.

Cataphoresis in the application of cocaine anæsthesia has recently been used very extensively in dentistry. It must not be considered, however, as a newly-discovered principle. Already, in 1859, we find in the *Lancet* (February 5th) the following report of the cataphoric application of an anæsthetic: "Some interesting and important experiments have been commenced by B. W. Richardson on the possibility of producing electro-chemical anæsthesia. A sponge impregnated with chloroform or tincture of aconite is applied in conjunction with the positive pole of the battery, and, a current being passed through the limb, it is found that the anæsthetic agent employed may be brought to bear in this way upon the deeper tissues and profound anæsthesia produced. A public demonstration of this method was given by Richardson at the Grosvenor Place School of Medicine, and the results were satisfactory as indicating the production of deep-seated anæsthesia; but the time occupied to effect insensibility was very inconveniently protracted. The further results of these experiments will be watched with interest."

In the *Medical News*, July, 1895, in an article entitled "Voltaic Narcotism," a report of the successful application of this method is also made, a molar tooth having been painlessly extracted after its cavity had been filled with a dosil of lint steeped in five minims each of tincture of aconite and chloroform, and a current of electricity passed through the part.

A number of experiments to illustrate the cataphoric effects of cocaine anæsthesia has been made by Frederick Peterson, New York (2), and may be easily repeated. In the first experiment a 10 per cent. solution of cocaine was applied to the skin of the dorsal surface of the hand for twelve minutes by holding the open mouth of the bottle containing the solution against it. No anæsthesia of any kind was produced. In the second experiment, a large sponge-covered wire netting cathode was applied to the palm of the same hand; sixteen cells of a Grenet battery were applied for six minutes without cocaine. No anæsthesia whatever followed. In the third experiment, the same electrodes and application were made, but with a 10 per cent. solution of cocaine applied to the anode. A contact for five minutes with the same strength of the battery caused complete anæsthesia to touch, pain and temperature, lasting over an hour in the surface which had been in contact with the anode.

It is known that the anode normally paralyzes the vasomotor nerves, producing congestion and edema, while cocaine has the opposite effect, contracting the capillaries, but when applied together the normal electric effect outbalances that of the cocaine, and the part under the anode remains congested.

In the next experiment the last process was repeated, except that the cocaine solution was appled to the cathode; it was followed by no anæsthesia.

The following is a summary of the results of Peterson's experiments: "The galvanic current alone does not produce anæsthesia at either pole, although the anode has a soothing effect over painful foci. A watery solution of cocaine applied to the skin is not absorbed and does not produce anæsthesia, except, perhaps, after an indefinite and long period. The same is true of chloroform and of an alcoholic solution or aconite. A watery solution of cocaine is diffused through the skin and subcutaneous tissues by the *anode*, but not by the cathode. This is true of chloroform, aconite, strychnine, potassium iodide, corrosive sublimate, tincture of iodine, and similar medicaments."

The anæsthesia produced by a 10 to 20 per cent. solution of cocaine on the anode is sufficient for small operations and affords relief for from four to eleven hours in cases of severe neuralgias in superficial nerves, and without any untoward constitutional effects having thus far been observed.

It has been shown by Arthur Harries (3) that the region covered by the negative electrode in the cataphoric application of cocaine, so far from being anæsthetized by the solution, was actually rendered hyperesthetic, while the area covered by the positive electrode became insensitive to passage and action of needle used to electrilize the hair.

A number of experiments with the cataphoric application of guaiacol has been made by W. J. Morton (4), who has obtained satisfactory results, especially when the guaiacol was combined with cocaine. He found that guaiacol, to which cocaine had been added, enabled him to shorten the time ordinarily required to produce anæsthesia about two-thirds, and also permitted him to reduce the current strength of electricity almost two-thirds. Another important feature of guaiacol in soft tissue is that it appears to hold on chemically to the cocaine, and thus prevents quick absorption into the general circulation and consequent toxic effects. He gives the following formula for the use of guaiacol and cocaine combined, and of guaiacol alone:

℞ Guaiacol.......................................ʒi.
Cocaine hydrochl. anhyd.....................gr. vi. M.

℞ Guaiacol.......................................ʒi.
Acid. sulphur..................................♏i.
Aq. dest..♏ij. M.
Sig.—Make emulsion.

Guaiacol is a non-conductor and cannot be used alone. Instead of using it as above, it may also be added to oil of pine, which removes, to a large extent, the unpleasant odor of guaiacol and improves its antiseptic properties. Creosote is a violent escharotic and is very irritating when used for cataphoresis, but guaiacol is creosote freed of the irritating hydroxyl.

Guaiacol possesses not only the property of anæsthesia, but is also a valuable disinfectant, and, in a number of experiments which I have made, it was successful not only in allaying the pain in tubercular laryngitis, but also of influencing, in a most favorable manner, the progress of this pathologic condition. In several cases, which I now have under observation, the result has been so satisfactory that I have abandoned the method of curettement and lactic acid, as cataphoresis has given me results so much better than this method, and without the great discomfort to the patient from curettement. I have also made use of peroxide of hydrogen by this method. When this is used, a little phosphate of soda should be added to make it a good conductor; sodium chloride may also be used, but as the chlorine is liberated, when the current is applied, it may cause considerable irritation.

In many of the published reports of the cataphoric application of iodine, as, for instance, Hunter McGuire in "Hare's System of Therapeutics," the authors specify the application of tincture of iodine or iodide of potash to the *positive* electrode. As iodide is an anion, it is repelled by the negative pole, and will, therefore, remain at the positive pole when these medicaments are applied to the positive electrode, and the effects will be little more than the local application of iodine to the surface. It should, therefore, always be applied to the negative electrode when its resolvent effects are required.

As some writers claim to have received benefit from this method, C. S. Neiswanger (5) suggests that some beneficial result may possibly be obtained from the use of the iodine at the positive pole by what might be called "secondary reaction," which may be explained by the old experiment of the glass rod and pith ball; the rod, having a positive charge of electricity, will attract the pith ball because it is of opposite polarity or different potential. But after awhile, or when the disturbed equilibrium is interrupted and the ball becomes the same potential as the glass rod, it is repelled. The same phenomenon may take place when we use the iodine at the positive pole. The iodine, being of different electric potential than the positive pole, is first drawn to it, but afterwards, by secondary reaction, or when the difference of potential is restored, it is repelled and does penetrate the tissues to a certain depth; possibly this is the secret of the good results claimed by some operators when using iodine at the positive pole. According to the law of cataphoresis, as now understood, the most penetrating effect of iodine preparations is obtained when they are applied to the negative electrode.

As showing the influence of the cataphoric application of iodine on micro-organisms, Burci and Fraseani (6) demonstrated that, with a current of 5 to 10 milliamperes for fifteen to thirty minutes, the nascent iodine, liberated by electrolysis from the positive pole, killed both streptococci and staphylococci.

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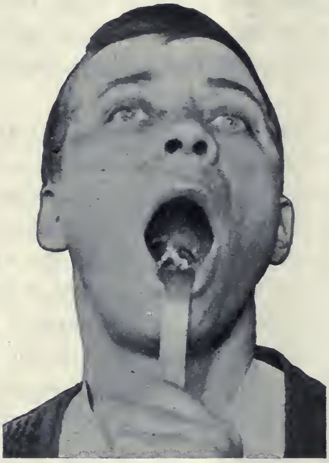
CONGENITAL CLEFT UVULA—REPORT OF A CASE.

BY A. H. OHMANN-DUMESNIL, M.D., ST. LOUIS.

There is possibly no subject in medicine more interesting or instructive than that of teratology. And in this branch cases of various sorts of arrest of development are fraught with interest as they are always of value in throwing more light upon the normal or physiological process of development. Anomalies were observed in very ancient times, as has been shown by Ballantyne, and they were then regarded as portents presaging limited or general misfortune of some sort or the opposite. From time immemorial these curiosities of medicine have been recorded, and in more modern times the observations made have been much more exact and satisfactory.



The older authors have recorded a certain number of double uvulas, but there is no doubt that the large majority were cleft uvulas. The entire absence of the uvula is of much more frequent occurrence than a double one. Cleft uvula has been reported by a certain number of authors, but not so frequently that the report of a new case would be entirely without interest to the profession. It is for this reason that I wish to briefly mention one which I observed some little time ago.

In examining a patient at the City Hospital, who was convalescing from an attack of scarlatina, I desired to note the changes which had occurred in the mucous membrane of the mouth and pharynx. He presented the evidence of a rather marked catarrhal condition, the mucosa being covered with a rather thick mucous, the soft palate having a rather dark reddish tinge such as characterizes an old catarrh. The arches of the palate were well formed, but the uvula became bifurcated very high up. Each half of the uvula made a decided curve from the meridian line and both were of the same length. Upon being interrogated in regard to this peculiarity, the patient stated that it occasioned him no inconvenience, and he further volunteered the information that he was "born that way." The accompanying illustration very clearly shows the condition as it was observed. The uvula looks much whiter than the soft palate from the fact that the mucous lay on its surface in rather large drops. The position of being more to the right of the meridian line is more apparent than real.

Cleft uvula is, without doubt, a form of arrest of development very similar to cleft palate in its mode of origin. As everyone knows, the uvula has a distinct raphé, and when fusion does not take place the separation occurs, but not to the extent shown in the case here reported. There is a further peculiarity in the extreme length of the two halves. Were they fused, the patient would be very much inconvenienced by the uvula lying on the tongue.

A careful general examination, made at the time this peculiarity was noted, did not reveal any other developmental anomaly. A fair degree of intelligence existed, the features were regular, and the body and limbs well developed. The subject made a good recovery from his scarlatina and presented no ear or kidney symptoms as sequelæ. I must add, however, that the attack was a very light one. A point of some interest to rhinologists is the symmetry of the nose and nares, as being further evidence of good general development.

A Remedy for Troublesome Sneezing.

In the July number of the *Zeitschrift für Krankenpflege* Dr. Koch, of Hildesheim, says that strong pressure on the hard palate with the thumb, exerted before the close of the deep inspiration that precedes sneezing, will prevent the sneeze.—*New York Medical Journal.*

PRIMARY SYPHILIS OF THE TONSIL—REPORT OF A CASE.

BY MAX THORNER, M.D., CINCINNATI, O.

"The number of authentic cases of chancre of the tonsil on record is by no means so large as to have removed this lesion from the field of clinical curiosities."* This consideration induces me to report a typical case which I have had the opportunity of observing.

Mrs. N. N., aged 27 years, called on me September 11th, 1896, complaining of an unusually sore throat. She had taken cold, as she stated, a few weeks ago, while riding a wheel, and since then her throat had been sore; the soreness had increased in spite of treatment and all kinds of home remedies, and was at present so severe as to almost render swallowing impossible. The patient was an anæmic-looking woman, who was apparently in great pain. Upon examination it was found that the left tonsil was greatly enlarged, having on its median and anterior surface a dirty-greyish discoloration of irregular shape, and about half the size of a five-cent nickle piece, at first glance somewhat resembling a mucous patch. Upon closer examination it was found to be a superficial ulcer with dirty-yellowish base. The anterior pillar of the fauces, in fact the whole left half of the soft palate, had a deep purple color, the redness diffusely extending to the median line and somewhat into the hard palate. The sub-maxillary glands on the left side were much enlarged, especially those below the angle of the inferior maxilla, where they reached the size of a hen's egg, and were very hard to the touch. Upon palpation, it was found that there was below and surrounding the ulceration an induration as hard as cartilage.

These conditions naturally aroused my suspicion, and when I learned that since a few days a macular eruption had made its appearance upon the chest and back of the patient, which, upon examination, proved to be a true roseolasyphilitica, I did not hesitate in looking upon the tonsillar affection as the primary syphilitic lesion (so-called hard chancre), although at the time the patient denied all knowledge as to the possible cause of the trouble. A few days thereafter, she gradually acknowledged, first indirectly, by leading questions as to the possibility of acquiring such a trouble by kissing, and eventually by tearful admissions, the almost incredible fact, that some time previous to the beginning of the sore throat, her husband, in spite of having a sore, had indulged in an act of sexual perversion.

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*Charles H. Knight in Burnett's System of Diseases of the Ear, Nose and Throat Vol. ii., p. 600.

Thus the clinical picture, the history of the case, and the result of subsequent treatment made the evidence complete as to the diagnosis of primary syphilis of the tonsil. The case was also seen by Dr. Jos. Ransohoff, Dr. T. V. Fitzpatrick, Dr. A. H. Freiberg and others. The treatment consisted in mercurial inunctions and local applications of the bichloride of mercury, under which the local throat symptoms and the swelling of the sub-maxillary glands gradually disappeared. Subsequently other secondary symptoms appeared, but with the exception of the site and mode of the infection, the case did not offer anything worthy of comment.

Thyrotomy in Cancer of the Larynx.

Dr. Botey states that, in spite of the fact that laryngotomy is becoming more generally adopted, thyrotomy, or laryngo-fissure is still the best treatment of cancer of the larynx, providing the tumor is unilateral and limited to the mucous membrane, which is the case during the first four or five months (*Archiv. Int. de Laryng.*, *Nov.*, *Dec.*, *1896*). This procedure holds a middle place between radical surgery, which removes the larynx and the vocal organs in their entirety, and the absolute abstentionists, who are satisfied with fighting the stenosis by tracheotomy.

Total laryngectomy has a mortality of 94 to 95 per cent., from which its value may be judged. One of the important obstacles in the treatment of this disease is that the laryngologist is conslated too late. The larynx is especially adapted for surgical intervention; there are few lymphatics, and infection of the ganglions takes place slowly. In cancer there are two categories, the operable, which are superficial and unilateral, and the inoperable, which spread to the neighboring organs.

The author has seen 109 cases of cancer of the larynx. He has done tracheotomy only once, and thyrotomy three times, having had in the latter two cures and one relapse. The mortality from thyrotomy is not more than 3 to 5 per cent. It is advisable, however, to operate only in cancers which are intrinsic, unilateral, and limited to the laryngeal cavity; that is to say, during the first four or five months of the development of the disease. A part of the cartilage may also be resected, if this be diseased or suspected.

W. S.

TWO CASES OF CEREBRAL COMPLICATION OF OTITIC ORIGIN.

BY DR. RAMÖN CASTANEDA (SAN SEBASTIAN).

Translated from Revista de Laringologia, Otologia y Rinologia for THE LARYNGOSCOPE by
DR. VINCENT GOMEZ (NEW YORK).
Visiting Ophthalmologist to the Almshouse, Workhouse and Incurable Hospitals;
Assistant Surgeon, New York Eye and Ear Infirmary; Instructor
in Diseases of the Ear, New York Polyclinic, Etc.

If the operative technique of the intercranial complications of otitic origin is to-day well established, it is due to modern works in this direction; but, on the other hand, we are not as yet in a position to make a precise diagnosis, and, consequently, observations in cases of this sort should be contributed in order to throw more light on the subject. It is with this object that I refer the following two cases:

First.—This was a child, seven years of age, who was brought to me on account of various nervous phenomena which followed a chronic purulent discharge from the left ear. She was not well developed, and we learn that she had not been born at full term. There were no stigmata of any kind. During the summer of 1893, she suffered from an acute purulent otitis media, produced by sea-bathing; from this she recovered in a few months. The tympanic membrane was somewhat thickened and presented a cicatrix in the postero-inferior quadrant. Last winter, after suffering from sharp pains in the left ear, there came on a suppuration, which at first was muco-purulent, but which at present is sero-purulent, together with redness and tumefaction of the tympanum and a pulsating light-reflex in the postero-superior quadrant, which indicated the position of the perforation; there was also slight bulging of the postero-superior canal wall. Some granulations were likewise present. The mastoid was not swollen, neither was there any pain. A fortnight previous to my seeing the patient, the discharge from the left ear had greatly diminished, and coincident with the diminution there came on a hemi-paresis of the right arm, with convulsive movements of the index and middle fingers of the right hand, slight headache and some vertigo. She did not present any irregularity of temperature, delirium, coma, vomiting or any other meningeal symptoms. Four days before, the right leg had become paretic. There was no hemianopsia, and the pupillary reflexes were normal, but an ophthalmoscopic examination revealed venous congestion of the papilla. There was no afasia. The only psyshic symptom was impaired memory.

As the symptoms of cerebral compression in the left side were evident, and as they coincided with the diminution of the discharge from the same side, we proceeded to operate, beginning by performing Stacke's operation, as modified by Schwartze. The mastoid cells were found to be of very small size, and they contained but a slight amount of pus; the attic, however, contained considerable granulation tissue mixed with fetid and caseous pus. No direct communication could be discovered leading to the meninges, and in view of this fact, we proceeded to chisel away the roof of the tympanum, thereby uncovering the dura mater for a distance of about one centimeter. The dura was of normal appearance, and it did not bulge into the opening. With a long sterilized needle attached to a Pravaz syringe we now made various explorations in search of the pus focus in direction of the temporal lobe and towards its upper part. These attempts were all negative. In view of our failure to find any pus faci, the wound was dressed, and we postponed further operative interference to another time. Unfortunately, the child's friends would not hear of anything else being done. The wound was cicatrized after twenty-six days, and all twitching had ceased, but there still was paresis of the right leg and arm. Later on, we learned that the phenomena of compression became more pronounced and the child died within two months.

This case offers various interesting points for consideration. Doubtless there existed an abscess of recent date, which most likely was not very large, and it seems to have occupied the temporal lobe. The symptoms present indicated its position to be in the ascending parietal convulution, involving, as well, the middle third of the fissure of Rolando, or in the posterior segment of the internal capsule.

Cerebral abscesses of otitic origin are nearly always situated in the temporal lobe; frontal, parietal or occipital abscesses occur with less frequency, and their presence is considered only when the functional symptoms correspond to this localization.

In the child whose mastoid cells are rudimentary, cerebellar abscesses are rarely encountered. Both cerebral or cerebellar abscesses are always situated on the same side as the affected ear, and as a rule they will be found in the temporal lobe.

According to Broca (*Bulletin de la Societé Anatomig de Paris*, 1894, p. 561) the localization of abscesses is very difficult before intervention, and those that form at some distance away from the carion faci generally are preceded by lesions of the surrounding dura. Surgical intervention does not always reveal that basal meningitis, but the possibility of this complication should not impede the operator from intervening.

In this case no direct communication between the focus of pus and the cerebrum could be discovered. Harmann and Garnault believe that frequently this continuity does not exist, and that the infection takes place by way of the lymphatics. Cases presenting an apyretic course have been observed by Politzer, who cites various cases in which grave cerebral symptoms appeared without being preceded by persistent headache, etc.

Before closing my remarks as to our first case, I might state that Lannois and L'abouley, in a case presented to the French Laryngological Society, advised the employment of an aspirating trocar to search for the abscess and thus avoid the inconvenience of the needles which become occluded with nervous matter so easily.

The second case which I wish to refer pertains to an army officer, fifty years of age, who had always been in excellent health, and, moreover, had never had any illness which could have brought on his present affliction. Besides, he had never suffered from any aural disease.

The writer was called in consultation, because the patient had been suffering with severe pain in the left ear for three days. He attributed his trouble to a severe cold, for which he had been treated by his physician.

The next day the patient showed signs of a beginning meningitis. On examination the patient presented a condition of general excitation with loss of consciousness. He would frequently bring his hand over the head, as if indicating the intense headache he was suffering from. He appeared to be nauseated, and the thermometer showed a temperature of 39.8C. The pulse was frequent and small; later on he showed converging strabismus, myosis and convulsive twitching of the right arm.

A speculum examination revealed a normal right drum-membrane; the left, however, showed a diffused redness with obliteration of all landmarks. Directly behind the malleus handle there was a slight bulging, indicating the presence of inflammatory exudate. A paracentesis was practiced at this point which gave issue to a sero-sanquinolent fluid which was not abundant. Notwithstanding this and an appropriate treatment of the meningitis, the patient succumbed, with all the symptoms of a general paralysis, in less than forty-eight hours from the beginning of the first token of meningitis, and five days after the first onset of the trouble. How did this meningitis occur?

We know that meningitis, consecutive to affections of the ear, is produced in two ways: It can be propagated by contiguity, by alterations in the walls of the tympanum, producing pachymeningitis; or the propagation is established by continuity, and, without pachymeningitis, the infection reaches through the labyrinth and internal auditory canal. There remains, however, a group of lesions which cannot be thus explained, and these cases have been explained by Loewemberg, who says that micro-organisms are transported by way of the lymphatic spaces, not producing any manifestations of their action until they have become fixed. Moreover, Mangiora and Gradenigo, in their investigation upon the microbes found in the ear, have shown that the same bacilli can be found in the fluids of catarrhal otitis as in the purulent affection.

The intensity of the infection depends upon the activity of the invading microbes, and upon the bactericide action of the mucosa and the fluid secreted. Lannois attributes to the mucosa of the middle ear a certain bactericide power, although he does not say it is similar to the property possessed by the nasal mucosa as demonstrated by the investigations of Würtz and Lermoyez; for no pathogenic distinction is made between acute catarrhal otitis media and the acute purulent forms; being that the same microbes give rise to both affections.

Otitic brain complications are usually due to chronic middle-ear suppuration, but they may also be produced by acute purulent otitis, and Garnault says that it is necessary to bear in mind that even a simple catarrhal affection of the middle ear, although rarely, can produce meningitis.

Tracheotomy and Intubation in Measles.

Dr. Josias states that in measles, laryngeal complications, such as diphtheria, laryngitis stridulous or edema of the glottis necessitate tracheotomy and not intubation (*Méd. Mod.*, *March 3*, *1897*). Of five children in which tracheotomy was performed, three were cured and two died. With intubation all the patients succumbed.

W. S.

FRACTURE OF THE BASE OF THE SKULL INVOLVING THE RIGHT EAR.

BY THOS. F. RUMBOLD, M.D., ST. LOUIS.

While on a visit to San Francisco, Cal., I examined, for Dr. L. C. Lane, on July 7, 1897, a case of fracture of the base of the skull that has some points of interest.

Mrs. ——— aet. about 32 years, was thrown, on the 2d of June last, from a horse that was running away. In falling, she grasped the animal by the neck and thus fell in front of him. His front foot struck her on the right parietal bone, near the top of the head, producing quite a large wound of the scalp.

When she was removed she was unconscious and about a pint of blood came from the wound and the right ear. On returning to consciousness, next day, it was noticed that she spat blood. This continued until the time she was examined.

A part of the fracture shows itself in the external auditory canal. There is hemorrhage from the mouth of the Eustachian tube. The stream can be seen flowing down the back wall of the pharyngo-nasal cavity, on examination with a pharyngeal mirror.

The fracture, as seen in the posterior surface of the auditory canal, extends outward from the membrana tympani as far as the cartilaginous portion of the canal, and shows itself plainly, looking like a slightly crooked scratch of a pin with the blood clotted over the scratch. The membrana tympani was bloodshot and swollen.

The patient complains of pain in the back of the head extending to the neck, and is more sore on certain movements of the head, especially a backward motion, while lying on the pillow.

The hearing of the ear (right) is much affected, and the ear itself has a numb sensation, and there is tinnitus. The patient has difficulty in pronouncing proper names and in asking for the right thing when at the table.

The further progress of the case will be reported in a few months.

FOREIGN BODIES IN THE EXTERNAL AUDITORY CANAL, WITH REPORT OF CASES.*

BY LEONARD KEPLINGER, M.D., WAXAHACHIE, TEX.

In writing upon the subject of foreign bodies in the ear, I will say that there are few difficulties met with in their removal, and little inconvenience caused by their presence, except those produced by an attempt at removal by one who is not accustomed to examine the ear, and who is inexperienced with reflex light.

In the first place, the external auditory canal is so constructed that it is a difficult matter to introduce anything far enough into the ear with the finger to cause pain; the canal is considerably smaller in its middle portion than either its inner or outer extremity. Hence, should a child succeed in pushing a foreign body beyond the narrow portion of the canal, it would find ample room to remain without causing any more pressure than that of its own weight, and if undisturbed would remain for an indefinite period without causing any inconvenience by its presence. The cases which might cause trouble are in the introduction of seeds; they may become bathed in the moisture of the canal and swell up, thereby producing pain by pressure; this would necessitate their removal at once.

Or, small foreign bodies may form a nucleus for the impaction of cerumen. I do not desire to discuss all forms of foreign bodies, but will simply confine my paper to those objects which are introduced from without inwards; such as buttons, beads, shell, seeds, slate pencils, stones, wads of cotton, and a variety of insects.

The greater majority of these cases are met with in children. Many mothers have a habit of keeping their baby's ears plugged with cotton; this often gets pushed far into the ear and the child is taken to the physician for its removal.

There is another class of cases which is of far greater importance than those just mentioned; namely, those where the foreign body exists in the minds of the patient and his friends, and not in the ear. In many cases the child comes from play and tells its mother it has put something in its ear. She looks in its ear and, nine times out of ten, imagines she sees the supposed object and tries to remove it, but loses sight of it; hence, she thinks she has pushed the object farther in, or, as often happens, the canal is large and straight and if the light is fairly good she sees the membrana tympani and takes it to be the foreign body; so, with this history, she goes to her family physician and insists that there is a foreign body in the ear, and requests its immediate removal.

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*Read before the Ellis County Medical Association, March 9, 1897.

Now, the question arises, what shall we do in case of foreign bodies, either real or imaginary, in the ear?

First, make a diagnosis; demonstrate, under reflected light, beyond a doubt, that a foreign body *is*, or *is not* in the ear. Remember the appearance in detail, both in health and disease. Listen to the history of the case attentively, but never, under any circumstances, undertake to remove a foreign body from the ear because some one said it was there; not even if a number of persons claim to have seen it, but act according to own judgment as a result of your examination. Should any doubt exist in your mind as to whether or not there is a foreign body in the ear, I would advise conservative treatment; leave the case alone. Let me add a brief history of two cases which I think fully illustrates the importance of an accurate diagnosis:

(Case No. 1.) R. Y., age 8, was brought to my office with the following history: On the day previous the child came in from play and told his mother he had put a small shell in his ear. She at once examined the ear and said she could see the shell. Several members of the family claimed to have seen it and attempted to remove it with a pin; however, they were afraid that they would push it farther in and did not persist in trying to effect its removal. On the following morning he was taken to a physician. Up to this time the child had suffered no inconvenience whatever, having no pain at any time, but here the symptoms set in. The physician examined the ear by ordinary light, and *also* saw the supposed foreign body; he at once proceeded to remove the same. Not having instruments sufficiently delicate at hand, a small pair of dressing forceps was used; the first attempt proved a failure, and the child stoutly resisted all further procedure; he was then held by force, and trial after trial failed to remove anything. All this time the child declared they were tearing something in his ear. Hemorrhage was quite free, and when they desisted from further procedure the child was unable to stand alone, and assumed a lateral curvature towards the affected side, and was suffering great pain. I saw the patient in the evening of the same day; he was carried into my office, being unable to sit up. He was suffering great pain and dizziness. All efforts to examine the ear without chloroform proved useless, so I at once gave the patient chloroform and made a thorough examination under reflex light. But to my utter astonishment no foreign body existed. The membrana tympani was totally destroyed; the external auditory meatus was denuded nearly all over its inner fourth, especially in the lower part. The chain of ossicles was fractured and was removed piece-meal; this the father of the patient took to be the piece of the shell. After removing all loose particles of the ossicular chain, I washed out the ear with a 5 per cent. solution of carbolic acid and packed the canal with iodoform gauze. This was dressed every day for four or five days, and then at longer intervals. Very little suppuration followed. He was unable to stand alone for five days; however, he never suffered very much after the first few hours following the operation, and made a very good recovery in about six weeks, with fairly good hearing in that ear. (Watch on contact.)

Now, what had happened in this case? In the first place, the external auditory canal was short and straight, which is often the case; on examining the ear the parents saw the membrana tympani and of course thought it was the foreign body; the physician, supposing they were correct in their diagnosis and not being prepared to use reflected light, possibly made a hasty examination; saw the handle of the malleus, and probably the short process, lying at right angles to it, and he also thought it was the foreign body, and proceeded at once to remove the same, with the above results.

(Case No. 2.) Boy about 9 years old consulted me for hypertrophic tonsillitis; as a matter of routine, I examined the ear and found a foreign body in the canal. It was covered with wax, so I could not determine what it was, on first examination. Upon questioning the mother, she stated that six years previous he had put some kind of a berry seed in his ear; they called in their physician at the time. He and his assistant gave the child chloroform, worked with it some time, informed the family that they had removed it, and that the child would never suffer any inconvenience. I syringed the ear with warm water to dissolve the wax, and removed the substance with a pair of Noys' angular foreign-body forceps. This seed had remained all this time without causing any untoward symptoms whatever.

After having satisfied ourselves as to the diagnosis, the question of treatment arises. While the removal of foreign bodies from the external auditory canal is one of the simplest of aural operations, I believe that in inexperienced hands there is a wide field for conservative treatment, and will probably yield more brilliant results than in any other disease or condition in the practice of medicine. Let me here report a case as an illustration:

(Case No. 3.) J. E., age 39, lawyer, consulted me for subacute pharyngitis. As is my regular custom, I examined the ears, found a foreign body in his left ear, which was readily removed with a delicate pair of forceps, and proved to be a wild rye head. The patient had no knowledge of its presence and was greatly surprised when I removed it. This foreign substance had probably been in the patient's ear since he was a boy on the farm, and had remained all this time without even making known its presence, thus showing that a foreign body may remain in the external auditory canal a lifetime with perfect impunity.

But, suppose we have found the foreign body and have determined to remove it? First, be provided with a good reflector. Always try the syringe first, and, if that fails, use such delicate instruments as the case may demand; of course the shape of the instrument will vary according to the nature of the foreign body to be removed. Possibly some one may think that it is not necessary to use reflex light in syringing the ear, but it is a good precaution; failure to wash the foreign body out often being due to the stream being directed *against* the foreign body and driving it farther in, rather than as directed, to one side of the foreign body, where it may be washed out with the return current. Of all procedures to remove foreign bodies from the ear, the syringe is the least productive of harm. Under no consideration is a physician justified in attempting the removal of a foreign body from the ear, unless he is perfectly familiar with the shape of the canal and the appearance of the membrana tympani, its relation to the chain of ossicles, and with a good reflected light as a guide.

Boils in the External Auditory Canal.

For the relief of pain, Field (*Brit. Med. Journ.*, *Journ. Laryng.*, Oct., 1897,) believes that nothing is better than glycerine. It acts by relieving tension, and, when used, should be mixed with an equal quantity of tincture of opium, and some boric acid, applied on a small dossil of cotton.

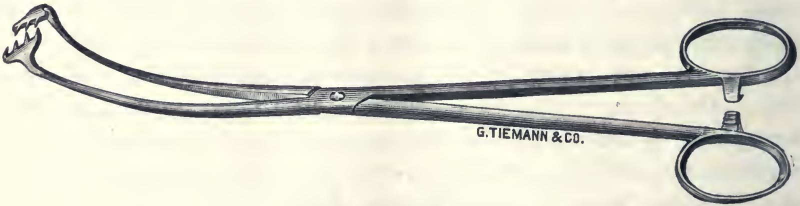
NEW INSTRUMENTS.

VOLSELLA FORCEPS FOR THE ARREST OF HEMORRHAGE IN TONSILLOTOMY.

BY JOHN C. LESTER, A.M., M.D., BROOKLYN.

Fellow of the American Laryngological, Rhinological and Otological Society; Fellow of the American Academy of Medicine; Assistant Surgeon to the New York Eye and Ear Infirmary; Assistant Surgeon to St. Bartholomew's Clinic for the Eye, Ear, Nose and Throat; Member of the Medical Society of the County of Kings, Etc.

A recent experience of the writer in a simple case of tonsillotomy with the ordinary McKenzie guillotine, and the subsequent almost fatal hemorrhage, which was finally arrested by means of an ordinary uterine volsella forceps, suggested to the writer the value of a modification of this forceps especially adapted to the arrest of hemorrhage in excision of the tonsils.



Lester's Vulsellum Forcep.

A brief history of the case at this point may not be devoid of interest.

The patient, an apparently well-nourished young man, twenty-two years of age, by occupation a bar-tender, presented himself at the St. Bartholomew's Clinic with a history of repeated attacks of tonsillitis. These attacks were never severe, and the inflammatory condition quickly subsided under ordinary treatment.

Examination of the fauces revealed enormously hypertrophied tonsils, more or less filled with leptothrix masses. The tonsils, on palpation, seemed somewhat hard and fibrous.

After consultation, it was deemed safe to remove the right tonsil by excision with the guillotine. Violent and persistent hemorrhage followed. Applications of ice, the various recognized hemostatics, compression, position, etc., were resorted to without result. The patient becoming exceedingly weak, the tonsil was seized by an ordinary volsella forceps, and the forceps clamped. Hemorrhage was immediately and completely controlled. The forceps having remained in situ for over an hour, its removal was considered safe, and it was unclamped. Hemorrhage, seemingly more profuse than before, recurred, and was again controlled as before. As a matter of precaution, the patient was then placed in the hospital and the forceps allowed to remain in position for nearly twenty-four hours. There was no return of the hemorrhage, and the patient made an uninterrupted recovery.

The carefully executed drawing of the forceps, by Messrs. Geo. Tieman & Co., of New York City, accurately represents the changes made in the standard instrument. As will be seen, the instrument is constructed with short prehensile teeth, set on a *broad* base. The handle is curved enough to allow the surgeon to easily grasp and clamp the tonsil. Properly adjusted, the forceps will remain in position indefinitely, and without discomfort to the patient.

Cases of alarming hemorrhage following tonsillotomy are, fortunately, rare; but an experience similar to the one reported cannot fail to impress one with the wisdom of a careful provision for a like emergency.

179 Schermerhorn Street.

An Instrument for Draining the Maxillary Sinus through the Inferior Meatus.

To establish free drainage in the treatment of empyema of the maxillary sinus, Dr. Ralph J. Wenner (*Cleveland Journal of Medicine*, Sept., 1897) has devised a trochar with adjustable handle and silver tube, seven-eighths of an inch in length. The trochar has a thread and movable shoulder, which prevent injury in insertion and also permits the use of tubes of different lengths.

An experimental puncture is made about one-quarter inch from the anterior end of the inferior turbinal in the inferior meatus; the trochar, without the tube, is forced through this opening. The trochar is then withdrawn and the tube adjusted. The tube may be allowed to remain several months if necessary.

A long, blunt, hollow needle, attached to a rubber tube and irrigator, is passed through the nasal tube into the antrum in irrigating.

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EDITORIAL.

ANNOUNCEMENT.

From and after October 15th, 1897, Messrs. John Wright & Co., Bristol, England, will act as sole agents for THE LARYNGOSCOPE for Great Britain, India and Australia.

All subscriptions to THE LARYNGOSCOPE from this section must henceforth be placed through them.

CO-OPERATION.

Although The Laryngoscope enjoys the distinction of having a greater number of actual subscribers than any other special journal of its kind in the United States, there are many physicians who would be glad to subscribe for it if they only knew of its existence.

Last fall we requested our readers to assist us by mentioning our journal to their friends, and by sending us the names and addresses of those whom they thought would be interested in it; as a result of the generous responses then made we received several hundred subscribers which we could hardly have otherwise obtained.

We would repeat this request and authorize our readers to offer The Laryngoscope free to their friends from the present date to January 1, 1898, providing the new subscriber sends us two dollars with his subscription.

RETURN OF PROSPERITY.

From all sides come the reports of returning prosperity, and we trust that our subscribers will bear in mind that The Laryngoscope would like to share in the restoration of good times.

Started during the financial depression, The Laryngoscope has succeeded beyond expectation, but our list of delinquent subscribers is a *trifle* too long. Now that our readers have returned from their vacations, strengthened by recreation and relaxation, we trust they will bear us in mind and will slip a two-dollar bill or P.-O. O. into a letter addressed to The Laryngoscope.

SEND US NOTES AND ITEMS.

The editors would be pleased to have the readers of The Laryngoscope send in such short items, notes and queries that would be of interest to our readers.

Almost every physician has made mental notes of some peculiarities met with in daily practice which, if reported, would prove worthy of notice. Often the point of the observation can be made in a few words.

SELECTIONS
FROM CURRENT MEDICAL PUBLICATIONS.

RHINOLOGICAL.

The Inferior Turbinate; Its Anatomical Individuality, Its Hypertrophy and Its Degeneration.

Dr. Lacoarret states that the inferior turbinate presents a true individuality in the nasal fossæ (*Rev. Hebd. de Laryng.*, *Feb. 27, 1897*). It consists of a distinct bone, and not, as in the other turbinates, of a simple osseous diverticulum. In its embryonic origin, the mucous membrane differs essentially from that of the other turbinates and resembles more the mucous membrane of the digestive tube. It has groups of glands, muscular fibre and enclosed follicles, which, from their great number, form a kind of nasal tonsil at the end of the turbinate.

The benign degeneration of the mucous membrane is preceded by an inflammatory process which has two distinct stages: One, a phase of congestion, and the other of organization, or hypertrophy, involving all the constituent elements. This hypertrophy presents two distinct forms, a smooth and a papillary form.

The degenerations which form the last stage of hypertrophy of the mucous membrane also present a smooth, or papillary form. From an anatomical, physiologic and clinical point of view, these degenerations are purely myxomatous, or fibromyxomatous. In their objective and microscopic character, by reason of their respective situation and their anatomical differences, they have no resemblance to the lesions of the same character which affect the mucous membrane of the other turbinates. We should, therefore, study the pathologic history of the inferior turbinate separately, as it presents a distinct entity. W. S.

The Means of Defense of the Nasal Fossae Against Microbic Infections.

After repeating the experiments of Lermoyez and Würtz and those of Thomson and Hewlett, Dr. Piaget has never found living microbes beyond the anterior fourth of the nasal fossa (*Revue Int. de Rhin., Otol. and Laryng., June, 1897*). The nose, with the exception of the vestibule, is therefore an aseptic cavity. In animals (dogs and guinea pigs) the same results were obtained as in man.

After inoculating the mucous membrane with various microbes in bouillon or gelatine plates, it could be shown that it also possessed a decided bactericidal action, absolute for the bacteria of charbon, and less intense for the bacillus of Lœffler. It also possessed this action against the streptococcus, staphylococcus, colibacillus, and the bacillus of Eberth. The bactericidal power is not without its limit, and an account should be kept of the number of bacteria inoculated. These observations explain the little danger of intranasal operations and the uselessness of antiseptic washes. W. S.

Etiology of Nasal Obstruction.

Dr. Mayo Collier (*Journ. of Laryngol; Charlotte Med. Journ.*) draws the following conclusions:

1. Mouth-breathing, under ordinary conditions, must be regarded as pathological.

2. The constitutional causes giving rise to it are heredity, together with the sequelæ of eruptive fevers, tuberculosis, specific disease, and such maladies as tend to an adynamic condition.

3. The local causes are the various obstructive lesions of the nasal passages, referred to in a preceding paragraph, except those exceptional cases due to congenital shortness of the upper lip or other oral malformation, including hare lip.

4. Notwithstanding the frequent manifestations of mouth-breathing, and reference thereto by specialists, its manifold and far-reaching evil consequences are not fully appreciated by our profession as a whole.

5. That tendency to spontaneous cure is not to be relied upon, hence medical or surgical treatment is necessary.

6. Then with a view of preventing this and other diseases of the upper air passages, the patient should, in addition to proper care of the skin and feet, make it a part of his daily toilet to use a suitable cleansing spray applied to the nostrils and throat.

7. Mouth-breathing and the pathological conditions giving rise to it are brought about by habits and environments incident to civilization.

Surgery of the Nasal Fossæ.

Dr. C. Compaired of Madrid (*Rev. Hebd. de Laryn. d' Otol. et de Rhin.; Am. Med.-Surg. Bul.*) gives clinical demonstration of the power of simple surgical procedures to cure completely, or relieve materially, diseases of the nasal fossæ which drugs of all possible selection were powerless to benefit. He claims that these surgical methods are the only treatment for that class of cases which he includes under the term nasal stenoses that will give us the tuto, cito et jucunde of the ancients. The almost constant immunity following operations from untoward complications, inflammatory and suppurative, remarkable when we consider the great vascularity of these areas, he attributes to a condition which the nasal cavities enjoy in common with the buccal cavity,—viz., an abundant secretion which catches, removes, and, perhaps, renders innocuous, all germs which would otherwise produce damage, especially when it is assisted, as in all modern surgery, by antiseptic sprays.

Catarrhal subjects have, as a rule, narrow or stenosed nasal passages and a doughy tongue, as well as marked disturbance of the general health.

Removal of the stenosis will prevent in children:

1. Thoracic deformities and their consequences.

2. Permanent malformations of the chest, deafness, faults in speech and mental function.

In adults:

1. It will prevent and cure asthma, spasmodic cough, bronchitis, melancholia and mental distraction.

2. In many cases stenosis is a factor in various nervous reflexes; and,

3. It is an important element in many diseases in which its influence has previously been overlooked. Moreover, it causes phenomena at remote points by continuity of tissue, by reflexes and by sympathetic function, as, for instance, of the genital organs.

He instances an inguinal hernia produced by the mere mechanical effort of blowing the nose in a case of stenosis. Loss of smell is explained by shutting off the olfactory nerves from the inflowing air current by the swelling of the turbinated tissues.

Powders, sounds, medicated cylinders, sprays, injections, irrigations with medicated solutions, tampons and all kinds of salves were given a patient and thorough test. But surgery brings in gradual dilatation with bougies, electrolysis, galvano-cautery, curetting, slicing, use of scissors, saws, etc., ranging from the smallest procedure to the most formidable; and the more blood-letting the remedy the more radical and efficient. Conviction is brought home by the clinics.

Differential Diagnosis between Chronic Rhinitis and Ozena.

In the advanced stages ozena is easily differentiated from all other chronic rhinitis, but at the onset of the affection this differentiation may be very difficult. (Della Vedora, in *Rev. Hebd. de Laryng., etc.*, No. 19, 1897.) The author believes that this diagnosis can be made at any period by bacteriologic examination and sero-therapy. He believes the discovery of the pseudo-diphtheritic bacillus indispensable for the diagnosis of rhinitis chronica atrophicans fœtida. Under sero-therapy the pseudo-bacillus is enfeebled in all its vital manifestations.

Thus, ozena may be differentiated from, first, rhinitis with crust formation, without odor; second, rhinitis with abundant catarrhal secretion, with odor; third, rhinitis sicca with more or less pronounced atrophy of the nasal mucosa; fourth, rhinitis with crust formation and fetid odor; fifth, rhinitis with crust formation, without odor, and with more or less pronounced atrophy of the nasal mucosa; sixth, rhinitis with scanty secretion, without odor, and with atrophy of turbinates.—*Jour. E. E. and T. Dis.*, July, 1897.

Naso-Pharyngeal Catarrh in Children.

In adult patients chronic disease of the nose and throat is very apt to be referred to specialists for treatment. In early childhood, however, this course is not so often convenient, and the cases remain under the care of the family doctor. Upon the general subject we observe an article by J. Comby in *La Medicine Moderne.* When brought into contact with a severe cough it is necessary, in the first place, to exclude bronchitis, whooping-cough, and disease of the mediastinal glands. The next step consists in the examination of the throat and nose. In the former we may find hypertrophy of the tonsils, pharyngeal granulations, or muco-purulent catarrh of the back of the nose and posterior wall of the pharynx.

The symptoms of naso-pharyngeal catarrh are a sense of dryness in the throat, some difficulty in swallowing, a dry, frequent and spasmodic cough, nocturnal rather than diurnal. Such a cough may even be followed by vomiting. It is of reflex origin, and caused by the secretion present in the pharynx threatening the entrance into the larynx. Such cases should be examined not solely by means of the tongue-depressor, but by anterior and posterior rhinoscopy. If we restrict ourselves merely to cauterizing the tonsils or pharyngeal granulations, we fail to attain our object. It is necessary, according to our author, to act upon the coryza and pharyngeal catarrh through the nasal passages. The daily instillation of one or two drops of mentholated oil (one to forty or one to fifty) is an efficacious procedure and can be recommended.

Nasal-pharyngeal catarrh is very common among children after being weaned and from the second to the fifth years. It is also seen in nurslings. The author instances a case in which the secretion was so abundant that it obstructed the larynx and produced symptoms analogous to those of croup. This pseudo-croup yields very rapidly to irrigation of the throat and nasal passages. The symptoms of naso-pharyngeal catarrh are more frequent and troublesome in winter than in summer. The common colds of inclement seasons often end in disease of the naso-pharynx. Acute or relapsing coryza often precedes the pharyngitis. Deformity of the nose, deviation of the septum, hypertrophy of the pituitary membrane, etc., are frequent predisposing causes. Hereditary syphilis sometimes seems to play a part in its production. Naso-pharyngeal polyps, adenoid vegetations, every variety of tumor of the nasal cavities or pharynx almost necessarily excite catarrh. Finally, the lymphatic temperament plays an influential part. Certain children of arthritic, tuberculous or scrofulous stock present an unusual development of the lymphatic system. Their subcutaneous glands are large, their flesh soft, and, as it were, gorged with lymph; their lymphoid organs (tonsils and closed follicles) are hypertrophied. The mucous membrane which covers this adenoid tissue is itself thickened, soft, and very prone to take on inflammation. Naso-pharyngeal catarrh is the attribute of such children, though all hereditary or acquired causes of local irritation of the nose and throat suffice to produce the disorder.

The symptoms relate to the nose and throat; as regards the former, they are identical with those of coryza. In order to be assured of the presence of posterior coryza, we need only inspect the throat. The muco-purulent matter can then easily be seen. The presence of this matter accounts for the pharyngeal cough of Dr. Millou, the sickening nocturnal cough (la toux nocturne emetisante) of Dr. Gaston. The children attacked by naso-pharyngeal catarrh, in fact, cough much; they cough the more in proportion to the accumulation of mucosity; the paroxysms are particularly severe during the night or in the early morning because the horizontal position has allowed the secretion to accumulate in the pharynx.

The evolution of naso-pharyngeal catarrh belongs rather to chronic than acute diseases. The children cough for weeks and months. Proper treatment causes improvement or temporary cure, but recurrences are frequent, as a starting-point is present in vegetations, posterior coryza, etc., and the least cold occasions a catarrh in a soil already so prepared. The prognosis is not serious. Even when neglected or overlooked naso-pharyngeal catarrh seldom leads to complications or secondary infections. What is most to be feared is the occurrence of middle-ear disease from extension through the Eustachian tube. Laryngismus stridulus, bronchitis, or bronchopneumonia may occur. This disease, however, though stubborn, is benign.

Treatment of naso-pharyngeal catarrh is general and local. The former is by means of cod liver oil, syrup of iodine and tannin, good food, fresh air and sunshine. The latter is by the use of a spray of borated or sulphurous water. His preference, however, is the solution of menthol in oil, already mentioned. The pharynx may be cleansed and medicated by the spray or touched with pure or dilute tincture of iodine, but the key to success lies in the proper treatment of the nose.—*Medical Bulletin*, May, 1897.

Nasal Angeioma.

Dr. F. C. Rogers, in the *Milwaukee Med. Jour.* (Aug. '97), reports a case of angeioma cavernosum. The history of the case presents patient with a gradually increasing impairment of the sense of smell, until at time of examination it became so blunt that only the most pungent odors could be appreciated. About nine months prior to the examination by the author, the patient became aware that something was growing in his right nostril. In two months time the tumor completely filled the nostril, entirely stopping respiration on the affected side. The growth increased rapidly, causing great deformity. Severe neuralgia accompanied the growth of the tumor. Patient had profuse hemorrhages at irregular intervals.

Examination revealed entire absence of respiration. Firm body seen in anterior nasal chamber, composed of large, purple interlacing blood vessels; the whole tumor covered with a translucent, grayish capsule; mass could be seen by posterior rhinoscopy, projecting through the choaræ. Pulsation could be felt, and slightest touch with probe started persistent and profuse hemorrhage. The mass had its origin from upper nasal area.

The tumor was removed after thorough cocainization with cold wire snare. The mass was slowly snared off, and hemorrhage was considerable. The cavity was packed with iodoform gauze. Microscopic examination confirmed the diagnosis.

An Operation for the Correction of a Saddle-Back Deformity of the Nose.

In the April, 1897, issue of THE LARYNGOSCOPE, Dr. E. C. Ellett reported a case of erysipilatous abscess of the nasal septum. This case is now the subject of a successful operation by the author (*Memphis Medical Monthly*, Sept., 1897), for the correction of saddle-back deformity of the nose. The operation consisted essentially of exposing the dorsum of the nose by an incision 25 millimeters long and extending above and below the extremities of the depressed portion. The tissues about the incision were dissected up freely over an area of four or five millimeters. After checking the bleeding with hot compresses, an oval platinum plate was inserted over the exposed dorsum. This plate was 20 by 15 millimeters, and curved from side to side, to conform to the curve of the nose, and perforated, to allow of its being more firmly fixed during the healing. The tissues were brought together over the plate, the wound closed under strict asepsis. The plate was previously boiled in soda solution, preserved in alcohol and immersed in bichloride before insertion.

The whole nose, after healing, is solid and the correction of the deformity thoroughly successful.

Spontaneous Correction of Deviations of the Nasal Septum by the Simple Removal of the Obstruction from the Opposite Nostril.

Dr. Lacroix reports the case of a patient suffering from almost complete nasal occlusion, who had a marked deviation of the septum on the left side, and on the right, a spur in the lower and polypi in the upper portion (*Archiv. Int. de Laryng.*, *Jan.*, *Feb.*, *1897*). An operation was made on the right side, leaving a patulous nostril which diminished in size daily by the straightening of the nasal septum, so that bilateral respiration followed without further operation.

The author advises that the opposite nostril be examined for obstructions, such as spurs, hypertrophy of the turbinals, etc., before attempting to correct a deviation of the septum. In many of these cases the correction of the deviation is spontaneous when the obstruction is removed. W. S.

Ozena Treated by the Serum Method.

In a paper on this subject, presented to the Spanish Oto-rhino-laryngological Congress (*Arch. Lat. de Rin.*, *Lar.*, *Otol.*, April 6, 1897), Dr. C. Conpaired rehearses this method of treatment, and formulates as follows:

1. That up to the present time this constitutes the most effective therapeutic treatment of ozena.

2. That the brilliant result obtained is revealed subjectively by the disappearance of the nasal odor, following the second or third in-

jection of 4 to 6 c. c. of serum recently obtained, and performed with strict aseptic and antiseptic precautions; and, objectively, by the lack of dryness in the nasal fossæ, with diminution in the crusts and increase of the fluid nasal secretion.

3. That, objectively, a change is noticed in the color of the mucosa, which appears pinkish, somewhat moist, and slightly swollen, and hyperemic.

4. That the crusts become less hard, dry and decrease in size, increasing in fluidity with the increase in the number and doses of the injections.

5. That the dose of 10 c.c., advised by Gradenigo, and even of smaller amount, is not free from danger, and for this reason it is advisable to use it in increasing proportions, exercising great care.

6. The author does not regard the aforesaid treatment exempt from inconveniences and danger. It has afforded, however, the best results, and for this reason it is advisable to study further its efficiency.—*Am. Med.-Surg. Bul.*

Epistaxis and Its Management.

This familiar subject is given a practical consideration by Dr. S. Trask in the *Pacific Medical Journal*, July, 1897. A clear account of the more frequent sights and causes of epistaxis and up-to-date methods of arresting it. Special stress is laid on the proposition that whatever the constitutional case may be, there is always a local cause and a local lesion to be sought and treated. First, as regards the site: It is most often found (certainly in non-traumatic cases) springing from the septum and generally quite anteriorally. This region is more than one inch inwards from the vestibule, and owing to its superficial position has been frequently as a hemorrhage center. In simple cases a light touch of a probe fused with argent. nitrate will arrest the bleeding. If the hemorrhage continues, a styptic, which coagulates or decomposes the blood on contact, should be used. The author uses finely pulverized sub-sulphate of iron rubbed into the mesh of antiseptic gauze, cut into fine strips or made into small tampons and applied with some pressure to the bleeding surface. A still more effectual remedy in the hands of the author is the following: At a moment when the bleeding has temporarily ceased spray the involved area with a one per cent. solution of cocaine. Pack about the bleeding-point pledgets of cotton previously soaked in a ten per cent. solution of citric acid c. p. Remove the cotton after a few minutes and spray the affected side with a plain hydro-carbon. After directing the patient to take a deep inspiration, touch the bleeding-point with a wisp of cotton twisted on the end of a toothpick, dipped lightly in fuming nitric acid. The precaution should be taken that all excess of acid should be removed before the application is made. A minute eschar is formed which drops during the healing, usually in a few days. When the bleeding is profuse several of these cotton-tipped toothpicks may be used and the various bleeding-points thus controlled.

Should the bleeding continue, or recur, grave internal or malignant local disease is the cause. Whatever the malady, to compose the nervous system lessen the after tumultuous action of the heart and limit the supply of blood to the naso-pharynx; give at once a hypodermic injection of morphia and atropine. Suitable ergotine preparations may be used in the same manner. The most reliable and readiest at hand of internal medicines are opium and spirits of turpentine. Chloride of calcium has come into favor of late, and employed in doses of thirty grains has reduced the time of blood coagulation in several cases reported to one-fourth the normal period.

Fatal Hemorrhage From the Removal of Adenoid Vegetations.

Schmiegelow (*Monatsschrift für Ohrenheilkunde*, 1897, No. 3; *Centralblatt für Chirurgie*, August 14, 1897) reports a case, not his own, but occurring in the practice of a surgeon who had often done the operation without mishap. The patient was a boy, twelve years old, who showed nothing strikingly abnormal beyond a pronounced adenoid habitus and scrofulous glands in the neck. The operation was done without anæsthesia, and the ordinary Gottstein annular knife was used. Without any warning, a sudden gush of arterial blood issued from the mouth and nose. In spite of prompt tamponing and subcutaneous and intravenous saline injections, death occurred in a few minutes. The internal carotid artery was found to have been opened just in front of its point of entrance into the carotid canal of the pars petrosa ossis temporis. The author supposes that swollen glands had pushed the vessel forward so that the pressure of the knife caused its rupture, for it was not cut.

Statistics in Naso-Pharyngeal Adenoids.

In a clinical study of seven hundred and one cases of naso-pharyngeal adenoids, observed in two thousand dispensary patients, Dr. H. Arrowsmith, of Brooklyn (*N. Y. Med. Journ.*, Aug. 28, 1897), draws the following conclusions:

Disorders of the tonsils—faucial, pharyngeal and lingual—have a very important place in the pathology of the upper respiratory tract.

In 42.9 per cent. of the two thousand cases these organs were affected. Hypertrophy of these tissues was more frequent in the female sex. In enlargement of the lymphoid material at the base of the tongue, the females show a very decided preponderance over the males. In hypertrophy of the tonsils, after the fifteenth year, the number of females is more than double that of males. The most frequent condition for which patients sought relief was difficulty in nasal respiration. Next in frequency were symptoms referred to the ear; and more rarely complaints were made of epistaxis, eczema of the nostrils, cough and hoarseness, headache, spasmodic croup, asthma, cervical adenitis, "snuffles," various epileptoid attacks, convulsions, and disorders of speech.

As an accompaniment of lingual hypertrophy the most common symptoms were a sensation of dryness in the throat with irritable cough, sensation of foreign body, dysphonia, aphonia, dysphagia, dyspnoea and loss of acuteness of taste.

In nine cases, hypertrophy of both the faucial and pharyngeal tonsil was noted. Hypertrophy of the faucial tonsil was rare above the age of twenty-five. In adults, tonsillar hypertrophy was more common than adenoid vegetations, owing to the larger amount of the fibrous tissue framework in the faucial than the pharyngeal tonsil.

Of 255 operations, 204 were done under general anæsthesia, either being employed to a point just short of abolishing the cough reflex. No douches were permitted for some time after operation. In no case has an operation been followed by an otitis where the ears have previously been sound.

Contrary to the experience of many European observers, in not a single one of the seven hundred and one cases enumerated has there been the slightest indication of a tuberculous tendency in these structures, discoverable on gross examination; and microscopical examination in twelve consecutive, unselected cases, have also been absolutely negative.

The Frontal Sinus.

In this article, which is more particularly addressed to the oculist, Dr. Gallemaerts exhibits some interesting anatomical points. (*Policlinique de Bruxelles*, *Nov. 13*, *1896*.) Contrary to the statement of most anatomists, he has found the right sinus usually larger than the left; in twenty-five skulls the right sinus was missing once. The anterior is the thickest wall; the orbital wall is the weakest, and next to this the cranial. Hence the majority of cases discharge their pus in the neighborhood of the orbit and then toward the brain. Sometimes the fronto-nasal canal does not open directly into the infundibulum, but into an anterior ethmoidal cell. The sinus does not exist in the new bone. It is the size of a small pea at one year, and at ten is well developed.

The catheterization of the sinus is not always possible by the natural passage. When the sinus opens into an ethmoidal cell, the osseous wall must necessarily first be perforated. The author concludes his article with some examples which prove the necessity of the thorough recognition of empyema of the frontal sinus by the oculist, as it may simulate phlegmon or osteitis of the orbit. W. S.

A Light Form of Psychique Excitation Following an Endo-Nasal Operation.

Dr. Luzatti reports a case, a woman of 35 years, in which, after removing a piece of the middle turbinal with the cold snare, without the application of cocaine, the patient gave a peculiar laugh, spoke with extraordinary loquacity, and exhibited, during the entire day, marked agitation—singing and speaking incoherently (*Annales des Mal. de l' Or., Feb. 1897*). The following day the symptoms disappeared.

This was probably a reflex caused by an operation on a patient suffering from a light degree of hysteria. W. S.

Spherical Ivory Osteoma of the Superior Maxilla.

Drs. R. and J. R. Winslow, in *Journal of Eye, Ear and Throat Diseases*, July, 1897, report this rare case of ivory osteoma, obliterating the antrum and occluding the nares.

The growth appeared in a 13-year-old boy, as "a small, red pimple at the lower part of the inner canthus." At time of examination, six months later, there was a dense spherical mass involving the greater part of the left upper jaw. The nasal passage was encroached upon, and pressure on nasal duct caused purulent inflammation of the lachrymal sac. The deformity of the nose, by broadening of the nasal dorsum, produced the so-called "frog-face" appearance.

The operation for removal of the tumor was made by exposing the bone by an angular incision beginning near the outer angle of the orbit and running parallel with the floor of the orbit to the nose, thence in the naso-facial crease to the ala and around this nearly to the middle line of the upper lip. The tumor was detached by means of a curved chisel, three teeth being removed with the growth. Patient made a perfect recovery.

Section of the tumor showed it to be a dense ivory-like osteoma, about 1 $^3/_8$ inches in diameter and almost circular in shape. The thickening of the bone extended into the alveolar process, apparently due to the irritation of an unerupted canine tooth. The antrum was obliterated.

LARYNGOLOGICAL.

Actinomycosis of the Tonsils.

H. Ruge, in the *Z'tschf. f. klin. Med.*, XXX., p. 529, reports four cases of disease of the tonsils in which a fungus resembling actinomycosis was found. The organisms were found always in the crypts of the tonsils, never in the tissue, and differed from true actinomycosis hominis in that the club-like bodies were not swollen at the ends, and that the contained granules were larger, and moreover the color-reactions varied somewhat.—*Am. Med.-Surg. Bul.*, *Aug.*, *97*.

Lancet

Diseases of the Nose and Throat in Relation to General Medicine.

Dr. F. de H. Hall (*Jour. Laryn.*, *Rhin. and Otol.*) accents the importance of the nose and throat as the chief portals of entrance of the poisons, whatever they may be, which give rise to infectious diseases. Evidence is gradually accumulating which points to the conclusion that people who suffer from nasal affections are more liable to contract infectious diseases, especially diphtheria, than healthy persons. In erysipelas of the face there is frequently some chronic nasal affection, and the erysipelatous flush, starting from the center of the face, is found to take origin from the nostrils. A large amount of literature has accumulated on the subject of erysipelas of the larynx and pharynx, but our ideas on this subject have been clarified since we recognized the streptococcus of erysipelatis as the cause of erysipelas. It is likely that this is identical with the streptococcus pyogenes, known to be the cause of various septic affections of the throat, such as phlegmonous erysipelas and angina ludovici.

If we except water-borne diseases, such as cholera and dysentery, almost all the other infectious diseases are conveyed by the air, and hence the morbific agent usually enters by way of the nasal cavities and pharynx, and here it proliferates during the first stage of incubation.

Lacunar tonsillitis occasionally follows, then inflammation caused by intranasal cauterization. It is also known to follow simple cold in the head, and the micro organisms causing it are supposed to enter the tonsils by way of the blood supply or lymphatic system from

Over

the nasal inflammation. The role played by the tonsils as a point of entrance of germs into the system has now become very generally recognized. Gerhardt has termed the tonsil a physiological wound—guarded, however, by leucocytes which protect the system against the entrance of these germs. If from any reason the energy of the leucocytes is diminished or the tonsil is in an unhealthy condition, then the germs of the disease, such as scarlet fever, diphtheria, and other infectious diseases, gain access to the system.

Tubercle bacilli can probably pass through the tonsils, and without giving rise to any disturbance in them, may produce tuberculosis of the glands of the neck. Adenoid vegetations in the naso-pharynx have a similar action to the tonsils in this respect.

The throat manifestations of the various infectious diseases are then considered at length.

In smallpox, as in other acute specific diseases, the excoriated condition of the mucous membrane of the upper air passages renders it vulnerable to the bacillus of diphtheria; hence a diphtheritic exudation may appear on the fauces, or the patient suffer from membranous laryngitis. This complication usually begins about the tenth day and runs a rapid and fatal course.

The nasal and throat manifestations of measles are well understood. In delicate children severe stomatitis and even cancrum oris may develop. As with scarlet fever, acute inflammation of the middle ear may occur. The hoarseness and constant irritable cough met with in the first stage of measles point to the implication of the larynx. Owing to the tendency to spasm in children the cough is frequently of a croupy nature. Membranous laryngitis is an infrequent but very dangerous complication of measles.

In scarlet fever, in addition to the usual implications of the throat, the streptococci of pus may develop in great numbers in the mucous discharge and occasion cervical adenitis, abscess, purulent otitis media, endocarditis and pleurisy.

In influenza, the nose, as being the chief portal of the entrance of this specific bacillus which is taken in with the inspired air, is early affected and the accessory cavities are very liable to be involved, the intense frontal headache being due in many cases to extension of the catarrhal process from the nose to the frontal sinuses; and cases of antrum disease are common, but when coming on in this manner respond much more quickly to the treatment than those developing more gradually.—*Medicine.*

Peritonsillar Abscess. New Method of Opening.

Most of these abscesses are located in the depression above the tonsil (fossa supratonsillaris) and between the arches of the palate. To inspect this region the patient's tongue is extended and depressed, the commissure of the lip is retracted and the head inclined toward the shoulder of the diseased side. In an abscess of any considerable size one can see an oval-bulging of the affected side. This area is cocainized, and by pressure upward and outward with a strong probe the abscess cavity can be reached. The opening is then dilated with forceps for several days and antiseptic gargles ordered. (Killian, in *Monatschr. für Ohren.*, No. 12.) In the *Münchener Med. Woch.*, No. 38, Grünwald indorses this method, and insists that an abscess which cannot be reached in this way has no connection with the tonsil. In support of this view he reports an abscess of the anterior palatine arch and velum, due to a decayed molar tooth and its alveolus, in which no pus was obtainable through the fossa supratonsillaris. Stetter (*Monatschr. für Ohren.*, No. 4, 1897,) recommends the knife in place of a probe for making the incision.—*Journal E. E. and T. Dis.*, July, 1897.

The Diagnosis of Lœffler's Diphtheria Bacillus.

Schanz, in the *Berl. Klin. Woch.*, No. 3, 1897, states:

The more we study the pseudo-bacillus of diphtheria, the more we are convinced of its great resemblance to the true bacillus of diphtheria. There is no longer any other distinctive sign than the proof of its virulence. The two bacilli are not identical, but belong to the same family, which has not yet been determined; as long as this is the case the bacteriologic diagnosis will scarcely be of very great value, especially in an examination made in 24 hours.—*Jour. E. E. and T. Dis.*, July. 1897.

To Facilitate Intubation of the Larynx.

Dr. C. Sihler in *The Cleveland Medical Gazette*, July, 1897, says: "For a long time it was a mystery to me why there was such a difference in the difficulty of inserting the tube in different patients, and I attributed it to the difference in the configuration of the structures. Finally, however, it became clear to me that the important thing would be to have the head held well forward—in fact so much forward that one will perform the operation on one's knee. There is the greatest difference in facility of execution between performing the operation in a standing position and where one is resting on the knee—at least in my own experience. Very skillful men, perhaps, have no trouble in performing this operation. I have to confess that I do not look upon it as such an easy one, and as there may be others in the same predicament, I give to these the brotherly advice: *Operate while on your knee.* One can readily understand why the conditions are so much more favorable. The vertebral column rather forms a concavity anteriorly when the head is held forward and almost downward, so that the larynx is brought thus backward and comes within more easy reach; and I think the direction in which we can now push the instrument will be easier to find than when standing." (*Phila. Polyclinic*, Aug. 28, 1897.)

Chronic Ulcerative Tuberculosis of the Fauces and Larynx—Possibly Primary.

Dr. Richmond McKirrey reports this interesting case in the *Memphis Medical Monthly*, Sept., 1897:

The history of the case includes marked aphonia, entire absence of pain upon deglutition and absence of cough; the patient being a young colored girl, aet. 13 years. The clinical picture presented a complete ulcerative destruction of the fauces, involving soft palate, anterior and posterior pillars and tonsils. The larynx presented a picture seen in advanced ulcerative tuberculosis. Every portion of the larynx seemed to be involved.

The case is either one of primary tuberculosis of the fauces and larynx, followed by pulmonary invasion, or else a remarkably chronic case of pulmonary tuberculosis with secondary laryngeal and faucial involvement.

The Present Status of Partial and Total Extirpation of the Larynx for Malignant Tumor.

By Dr. K. Czwiklitzer, Breslau (*Beitrage zur klinische Chirurgie*), translated by George R. White, New York (*Annals of Surgery*, August, 1897).

Thirteen cases of laryngectomy are reported from the clinic of Professor Mikulicz, including nine cases of partial resection, two cases of resection of half of the larynx, and two cases of total extirpation. Including a case done six weeks before the report was made, five of the thirteen cases have lived. These five are all cases of partial resection and have lived six weeks, one and a half years, two and a half years, five years, and eight and a half years respectively.

As compared with the earlier statistics there is some improvement in recent years, due to two causes—namely, better selection of cases and improvement in operative technique.

There is now a larger proportion of partial resections, showing that the operation is done earlier than formerly, and a falling off in the number of cases of total extirpation, owing to the almost constant fatal result following that operation.

The chief improvement in the technique consists in closing off the buccal cavity in cases of total extirpation by suturing the anterior wall of the esophagus to the base of the epiglottis, thus avoiding sepsis from the secretions of the mouth.

Preliminary tracheotomy several days or weeks before the operation, to get the patient accustomed to the tube, is now given up, as the cicatrix about the tube is detrimental in several ways, and is liable to become invaded by the malignant growth. Tracheotomy is done at the time of the operation, using Trendelenburg's or Hahn's tube. The former, however, is liable to be punctured during the operation with serious results.

Rose's position, with the head dependent, has not given satisfactory results either during or after the operation.

The functional result depends largely upon the amount of tissue removed. In cases with two-thirds or more of the larynx remaining, a fairly normal function may be expected if the tracheotomy tube is removed early and care taken to prevent cicatricial stenosis. Five of Mikulicz's thirteen cases were able to speak audibly, but with a harsh, rough voice.

The artificial larynx seems to be falling into disuse, neither Mikulicz nor Billroth has used it. For cases of partial resection it is best to have the patients learn to speak without the use of apparatus, and for cases of total extirpation the mouth and trachea may be connected by a so-called chimney tube—a plain glass tube, convex anteriorly, with a fenestrum in front. Reference is made to a case of Solis-Cohen, who learned to speak audibly, although there was no connection between the mouth and trachea. In conclusion, he makes a strong plea for early diagnosis and operation.

Cancer of the Larynx.

After a historical review of this disease, Schmiegelow (*Ann. des Mal. de l'Oreille, etc.*, *Ann. O. R. and L.*) reports 34 cases of his own observation. There were 21 male to 13 female patients, and the age was mostly (25) between 40 and 60. The symptoms are often slight in the beginning and sometimes consist only of some hoarseness. Pain depends on the seat of tumor, whether it is outside or inside the larynx. The prognosis of cancer inside the larynx is much better, especially if the vocal cords are the part involved. The author saw a case of a papilloma in the posterio and a carcinoma in the anterior half of the cords. A tumor may change its character into a malignant growth.

The Treatment.—(1) Extraction from within the larynx; (2) laryngo-fissure; (3) resection of a part of the cartilages; (4) extirpation of the larynx; (5) tracheotomy.

Among the cases that were operated upon after the first method are some that were cured for 12 and even 20 years. This operation is indicated in polypoid forms. Laryngo-fissure and partial or total resection were first recommended by Billroth in 1873. The immediate results of the operation are good. After three years the outlook is just as dark as in the other forms of cancer. Of 50 cases of resection of the larynx there were 16 per cent. of immediate deaths and 16 per cent. recovery without recurrence after three years. Fifty cases of total extirpation of the larynx had 11 deaths and 5 cures lasting at least three years. The author describes a new way of operating without tamponing the larynx after the operation.

The Diagnosis of Laryngeal Tuberculosis.

Massei insists upon the difficulty of well recognizing early cases of tubercular laryngitis, which simulate chorditis or syphilitic infiltrations. (*Archivio Italiano di Otologia*, *Jour. Laryng.*, etc.) It frequently happens that no pulmonary sign is present; no tubercular bacilli found. The patient may be really a syphilitic one, but he is, in the meantime, affected by tuberculosis.

We can affirm the true nature of the disease in such doubtful cases either by a microscopic examination of small pieces, or by inoculations in guinea pigs, or, better, by both.

The author was struck with the interest of such a fact, which allows an early surgical treatment with curettement and local applications. He is also convinced that similar cases are less rare than believed, and they practically confirm Fraenkel's opinion on the prevalence of tuberculosis by inhalation—*i. e.*, the evidence of a primary laryngeal tuberculosis in a more frequent rate than is commonly believed. He expresses the wish that such a practice (removal of small pieces of the affected tissues for experiments) may be taught as a rule in the schools, and applied often in the practice.

Submucous Hemorrhage of the Vocal Cords.

A series of five cases of this uncommon condition is reported by Dr. S. W. Langmaid in the *New York Medical Journal*, August 28, 1897.

The situation of the extravasation was in every case at the junction of the anterior with the middle third of the cord. In four of the cases the hemorrhage consisted of a globule of blood underneath the delicate mucous membrane, whose diameter was nearly that of the transverse diameter of the cord, with margin well defined.

In each instance vocal strain was the cause of the hemorrhage, with accompanying catarrhal condition. Four of the cases were in singers. The impairment of the voice consisted in hoarseness and limitation of the upper register. In four other cases the lesion was located on the right cord; in one it was on the left. The author assigns as a cause for this condition an excess of force required to bring the glottis into sounding position in consequence of a laming of the vocal muscles from a catarrhal chorditis. This resulted in congestion, even to the extent of rupture of a blood vessel.

That bad vocal technics is not always a factor in this lesion is shown by the fact that it occurs in the most finished singers.

In none of these cases were both cords affected, although this is rather the rule than the exception in observations by others. Laryngeal pain was frequently complained of.

As to the prognosis, it may be said that all cases recover very quickly, excepting where a vascular tumor remains; this must be removed before the voice is restored. The treatment should consist first of all in *absolute* rest to the voice where possible. The laryngeal catarrh should also receive attention. The author has found the application of a spray of menthol efficacious. To help in the restoration of the vocal tension strychnine may be administered and, after the complete disappearance of the extravasated blood, intralaryngeal galvanization may be beneficial.

Voice After Removal of Adenoid Vegetations.

Lancet

A guarded prognosis is given by Dr. Gibb (*Phila. Polyclinic*, June 26, 1897) as to the quality and character of the voice after the removal of *adenoid vegetations* from the vault, or the excision of hypertrophied faucial tonsils in children of ten years or over. We are apt to believe in the return to a normal voice after these operations, and not infrequently we shall be disappointed. Besides the faulty habit formed, prolonged mouth-breathing brings about changes in the turbinates, and the high-arched palate contributes to an alteration of tone.

Syphilis of Epiglottis.

At a recent meeting of the Berlin Medical Association, Dr. Hansemann described a new syphilitic symptom hitherto not recognized as such, although it is of frequent occurrence. It is an inflammatory condition of the epiglottis, commencing at the extreme root of the tongue and working outward. The inflammation causes retraction of the epiglottis, which in time becomes anteflected and even doubled. In the autopsy of fifty-five cases with unmistakable indications, Dr. H. noted twenty-five with the epiglottis anteflected, thirteen shriveled and seventeen normal. In five cases the epiglottis was anteflexed, without any other indications of syphilis, although atrophy of the root of the tongue was present in one case. As it is not infrequently important, to be able to determine definitely the presence of constitutional syphilis at an autopsy, this condition of the epiglottis may well support the suspicion of syphilis.—*Journal of American Medical Association.*

OTOLOGICAL.

Examination of the Ear in Children. Hearing Tests.

Dr. P. Bonnier employs the auscultation tube and tuning-fork in making tests for the hearing of children. (*Journal de Medical de Paris*, February 14, 1897.) One end of the auscultation tube is inserted into the auditory meatus of the ear to be tested, and the other to the examiner's ear. To the middle of the tube the handle of a large tuning-fork of large vibration is applied.

The comparative length of time is now estimated as to the duration of the vibrating-fork, as heard by the ear of the patient and that of the examiner. The conclusion is thus drawn by the relative hearing power of the patient to that of the examiner.

The power of audition of a child should be more acute than that of an adult. This simple method of determining relative audion is practical.

Gout as a Cause of Ear Disease.

Dr. Charles Baum, in *Philadelphia Polyclinic*, July 24, 1897, writes:

In text books, reference is seldom made to ear troubles occurring in gout. The same toxic cause which produces the well known ordinary symptoms of gout, does produce otalgia. Gouty otalgia does not differ in its symptoms from ordinary earache, except that the intensity of pain is most severe during the "small hours" of the night, and that it is most rapidly relieved by appropriate constitutional treatment.

Tinnitus aurium, of gouty origin, is slowly increasing in frequency.

In such cases, as a rule, the acuteness of hearing is not affected; vertigo is frequently absent; pressure sensations from within upon the external tympanum are common, especially during a paroxysm of gout in the classical locality; posture of body does not influence the intensity of the sound to any great extent, but the degree of saturation of the blood by the gouty poison increases or diminishes it. The character of sound varies as in ordinary tinnitus aurium. During the night the sound is most marked. Long continued and local treatment has been of no avail. Proper constitutional treatment will greatly relieve or almost remove the tinnitus aurium. It is doubtful if a complete cure can be obtained.

Deafness of Genital Origin.

P. Bonnier writes in *Revue Internat. de Rhin.*, *Otol. et Laryng.*, No. 3, 1897, that he has met three cases of deafness associated with genital troubles of different nature. Deafness found in subjects of onanism and in certain degenerates is accompanied by a generalized clouding of all the sensorial functions and a deep voluntary mental depression. Two of these cases were not in subjects of onanism, and the third retained normal brightness and intelligence.

1. A boy of 13 years, for several years, had been affected with intermittent deafness, and been variously treated therefor. At first he appeared absolutely deaf, but he was less and less so when his listening attention could be awakened indirectly, and after awhile maintained until the smallest sounds could be noticed. There was no lesion at all in the peripheral apparatus. The simple fault was in the absence of attention. There was hysteria, no epilepsy, no onanism, but there was a left inguinal ectopia.

2. A girl of 22 years had been carefully treated several years for the same symptoms. There was no trace of neurosis. The father and mother confessed that their daughter had for years practiced ungovernable masturbation, to which they attributed her deafness. The girl was very intelligent, gay and frank, and presented no signs of habitual onanism, except great failure of memory, and this deafness of the same character and behavior as that in No. 1.

3. A boy of 9 years had a little deafness of less intensity. There was no organic trouble, no functional defect, no nervous waste. But the boy was feeble, poorly developed and of tuberculous stock. The mother drew attention to absence of one testicle.

These three patients alike had complete organic and functional integrity of the peripheral auditory apparatus, but all presented in varying degrees the same absence of auditory attention on both sides alike. There was no trouble in other functions except memory. Hearing was normal, but not perceived; it was like a photographic negative undeveloped. The attention was forced by a kind of reflex, acting upon a normal auditory apparatus.—*Am. Med.-Surg. Bul.*

Noises in the Head.

"Of the functional defects of the organ of hearing," writes Dr. E. B. Gleason in the *Atlantic Medical Weekly*, July 24, 1897, "tinnitus aurium, or noises in the head, heard only by the individual affected, is an annoyance rivaling in importance the deafness by which it is often accompanied. There are three classes of tinnitus: (1) the pulsating; (2) the continuous, and (3) sounds more or less elaborated, like ringing of bells, music, words, etc., the latter class only being referred to a point outside the head.

"Pulsating tinnitus usually indicates arterial congestion of the middle ear or labyrinth. The differentiation between pulsating and continuous tinnitus may frequently be made by pressure over the carotids or vertebrals.

"Tinnitus due to anæmia may be permanently cured by suitable hygienic measures and tonics. Pulsating tinnitus due to congestion may be alleviated by the exhibition of bromides, and the author prefers dilute hydrobromic acid in doses of from 15 to 60 drops.

"A constant tinnitus usually accompanies the first stages of chronic aural catarrh; as deafness becomes more pronounced the tinnitus often disappears. This form of tinnitus is sometimes relieved by large doses of bromides; in a limited number of cases good results have been obtained by a pill composed of argent. nitrat. gr. $^1/_4$, extr. hyoscyamus gr. $^1/_3$, and strychnia gr. $^1/_{30}$.

"Among the reflex causes of tinnitus are mentioned: The nose, the teeth, or more frequently the digestive tract. Quinine, the salicylates and certain other drugs are capable of producing tinnitus, either as a result of aural hyperæmia or by their toxic action upon the internal ear.

"In lithemia and dyspepsia, accompanied by tinnitus, acids, as, for example, hydrobromic acid, are frequently useful in controlling this annoying symptom. Five drops of concentrated nitro-muriatic in a glass of water after meals sometimes affords speedy relief from head noises by freeing the blood of uric acid.

"The more elaborated subjective sounds heard, as if produced outside the body, are the result of diseases of the ear, acting on at least an easily excitable brain."

Giddiness and Staggering in Ear Diseases.

In giddiness, due to middle-ear disease, Thomas Barr assigns as the cause, pressure applied to the walls of the middle ear. (*British Medical Journal*, May 1, 1897.) Pressure may be caused by inflammatory products—air, water and various fluid medications. In some cases, Meniere's disease, with its train of symptoms, is produced.

Excessive air pressure upon the walls of the tympanum may cause giddiness. Violent blowing of the nose, and thus a consequent access of increased volume of air in the tympanum, may produce these symptoms.

Water entering from the external auditory canal through an existing perforation, to the tympanum, often causes vertigo.

Acoustic Impressions During Chloroform Narcosis.

While operating on a young man for an intestinal polypus, who was already well under the anæsthetic, Berger (*La Med. Scient.*; *Am. Med.-Surg. Bul.*) observed that creaking of a door caused the patient to go into a state of collapse, thereby compromising, also, the final result of the operation. He seeks to explain this phenomenon by recalling the Carlo-Masso hypothesis, according to which, even during profound chloroform anæsthesia, the nervous centers are not rendered insensible to intense peripheral excitation, a fact which seems to be proved by others observed in surgical practice. Therefore, it must be remembered that the hearing greatly resists the sleep induced by chloroform, acoustic impressions being possible when all the other general voluntary and reflex acts are abolished.

Atresia of the External Auditory Meatus.

Anton (*Therap. Woch.*; *Pediatrics*) reports a case of this malformation. The child died nineteen days after birth from an attack of pneumonia. Externally the pinna of the ear was found distorted in such a manner that the auricle seemed turned back and partly adhered to the cheek. The opening of the external meatus was indicated by a small slit. In the vicinity of the upper jaw-bone a fissure of the hard and soft palate was noted, and the pyramid of the temporal bone on the deformed side was abnormally small in contrast with that of the normal side. The cartilaginous auditory canal was present, but ended in a blind extremity after a short distance. The ossicles were only rudimentary, but the labyrinth presented normal conditions. The anatomical findings perfectly agreed with those of published cases. The manner in which this deformity is produced finds an easy explanation in the embryonal arrangement of the auditory canal. As to the time of the occurrence of this deformity, it may be said that this can be traced back to a very early period, as the external organ of hearing is perfectly developed at the end of the second month of embryonal life. Of the etiology only little may be said with certainty. Perhaps inflammatory processes or syphilis should be considered. The practical questions which arise in the consideration of these cases are the hearing power and the probable result of an operation. As far as the power of hearing is concerned, this cannot be determined until a reliable examination for this purpose has been made. The success of an operation, in view of the anatomical findings, must be hopeless.

Earache.

Dr. F. W. Hinkel, of Buffalo, takes up this common but most important subject and considers its significance and early management (*Maryland Med. Journ.*, *Medical Standard*).

The first indication in the early stage of an earache is to procure quiet, physical and mental. Place the patient at once in bed and keep him there, if a child, forty-eight hours at least. Many relapses occur from allowing a restless child to play about the house the next day after an earache. Let a hot foot-bath be given under the bed clothes for its relaxing and revulsive effect.

If a child from 3 to 8 years of age, give morphia sulphate, gr. $^1/_{16}$ to $^1/_{10}$, by the mouth. Let the dose be large enough to be effective and given hypodermatically in older patients. The result sought is not only relief of pain, but to affect the circulation, locally and in general. The opiate may be repeated, if the pain recur or be not controlled, but it should not be continued the second day. There are then surgical means to be used to relieve pain, and at the same time to relieve tension in the tympanum and lessen the danger of mastoid or brain complications.

If the bowels are loaded or the tongue indicates it, give calomel and a saline in robust cases. For two days let the patient have only light diet. See that no erupting or decayed or ulcerated teeth are exciting inflammation in the ear. Let the room be kept at about 68 degrees and the air sweet and somewhat humid.

The local treatment of the early stage of acute catarrhal otitis consists of measures to apply warmth to the parts and to prevent sudden alternations of temperature. Dry hot applications are preferable to moist ones. Let a large pad of wool or absorbent cotton be heated quite hot and applied over the entire affected side of the head, held in place by a kerchief. In young children the pad can be stitched inside a little cap and effectively held in place.

Occasionally, if the pain continue despite the treatment already suggested, combined heat and moisture give relief. This is best applied by a very gentle stream from a fountain syringe. A quart at least of very hot water should pass steadily and slowly into the auditory canal to the fundus and then escape into a receptacle held below the ear properly. If it relieves pain, it may be repeated as often as indicated.

Avoid the use of all applications about the auricle or within the auditory canal that may ferment or become rancid, such as sweet oil, oil and laudanum, and poultices of any kind. Instillations of laudanum, morphine solutions or cocaine solutions are of doubtful utility, and may be positively injurious in case of rupture of the drum-head.

There is frequently considerable naso-pharyngeal catarrh in these cases. Avoid the use of cleansing sprays or douches the first day or two of the attack. The congestion of the ear is very easily increased by them. A half of one per cent. solution of cocaine muriate in distilled water may be used, if there be, as there often is, much nasal stenosis. This may be followed to advantage by a two per cent. solution of menthol, sprayed lightly into the nose and throat. Warn the patient against blowing the nose violently. Carelessness in this regard may cause a recurrence of the pain. Do not inflate the tympanum at this time by any method. That should be done only under expert advice.

If pain continues unabated or increased on the second day, the ear should be thoroughly examined. Evacuation of the tympanic cavity by free incision of the drum membrane may be needed. If promptly done, this may prevent a prolonged purulent inflammation, with all the dangers it entails to hearing and even life itself. The author sums up as follows:

1. Earache, however slight, may signify disease that, neglected, may terminate in loss of hearing, or even of life itself.

2. Recurring earache in children almost always is associated with lymphoid hypertrophy of the pharynx, and permanent impairment of the function of the ear is prevented only by early surgical treatment of the "adenoids."

3. Acute inflammation of the middle ear may be frequently aborted, if proper treatment—mostly of a general sedative character—be administered early in the attack and with precision.

4. If relief be not obtained by the second day, a thorough exami-

nation of the ear should be made and proper surgical treatment applied to relieve intratympanic pressure and possible involvement of the mastoid cells or intracranial structures. Failure at this stage to obtain as exact knowledge as possible of the condition of the middle ear is criminal negligence.

Operations on the Drum-Membrane and Ossicles for Improvement of the Hearing.

There has been considerable written, pro and con, on the subject of middle-ear operations for the improvement of the hearing. (Edward S. Clark in the *Pacific Medical Record*, July, 1897.) The results have been so varying that some aurists have almost abandoned these operations, while others again, finding more or less benefit in the majority of cases, will operate whenever a patient presents himself, and indications are favorable. These operations may be classified as follows: 1. Operations on the membrana tympani alone. 2. Operations on the ossicles alone. 3. Operations on the membrana tympani and ossicles.

1. Operations on the Membrana Tympani Alone.—In cases of deafness with no known cause, when the membrana tympani is apparently normal, the drum-head has been punctured, and in some cases almost entirely removed (without interfering with the ossicles), with results nearly always unsatisfactory. In other cases where the drum-membrane is thickened and opaque, the removal of a small portion of the membrane has been followed temporarily by improvement in the hearing, though permanent benefit is seldom or never obtained.

2. Operations on the Ossicles Alone.—When the membrana tympani has been almost or wholly destroyed by chronic otorrhea, the malleus, incus, or stapes, one or all, may be injured by necrosis with adhesions or anchylosis of the articulations. In these cases a prompt removal of one or more of the ossicles will not only cure the otorrhea, but in the experience of the author has invariably improved the hearing. In two cases only, however, has he found it necessary or even possible to remove the stapes. The results were nevertheless equally as satisfactory as in the removal of the other ossicles.

3. Operations on the Membrana Tympani and Ossicles.—The removal of the drum-head with malleus or malleus and incus in apparent health is indicated when? Generally, when the drum-head is thickened and opaque, ossicles adherent and immovable, hearing little or nothing, the removal of membrane and ossicles may be advisable. In no case has the author operated when the patient was able to carry on a conversation at a distance from the ear, greater than 20 centimeters. In 26 cases after operation, hearing was in 1 case 6 meters, 1 case 5 meters, 2 cases 3 meters, 4 cases 1 to 2 meters, 10 cases slight improvement, 6 cases no improvement, and in one case the patient lost all the hearing he previously had. He had been able to converse at 20 centimeters, but after the operation was totally deaf. In more than half the cases, however, there was some improvement. In another condition when the handle of the malleus is adherent to the promontory, the membrana tympani and middle ear otherwise appearing normal, or only slightly thickened, the following operation has been made in 5 cases: 1. An incision is made in the drum-head about 2 mm. in length alongside the manubrium, then a small knife, bent at right angles, is inserted through the opening, and the adhesion is thoroughly separated; then using the knife as a hook, the manubrium is pulled a little outwards to be certain of its motion; the knife is then withdrawn and the ear inflated carefully with the catheter, followed by daily use of the Siegel speculum and catheter for from two to four weeks. The results have been in these five cases very satisfactory. In three the hearing was completely restored. In one case it was improved from 1 meter to 6 meters. The other is still under treatment, and has improved from 0.5 meter to 6 meters, in six weeks, and it is necessary to use the catheter about twice weekly to keep the hearing at 6 meters.

From the above, Dr. Clark regards it the duty of the aurist to consider well the question of operative interference, in all cases of deafness where ordinary means have failed.

Occlusion of the External Auditory Canal and Its Treatment.

Dr. Ernst Vali, Buda-Pesth (*Rev. Int. de Rhin.*, *Otol. et Lar.*, *Ann. Otol.*, *Rhin. and Lar.*, August, 1897), dissents from the opinion commonly held that occlusion of the external auditory canal, particularly congenital occlusion, resists all surgical intervention. In the acquired form the chances for improvement are greater. The vital indication, in occlusion, for operation is the prevention of pus retention (as pointed out by Schwartze).

I. Congenital Occlusions:

The causes are particularly limited to the external parts of the auditory apparatus, and rarely reach the middle or internal ear. In malformations of the tympanum, the membrane and the Eustachian tube, combined with absence of the auricle and occlusion of the external auditory canal, the labyrinth has always been found intact (?). Operation, therefore, presents all chances of success; yet, strange to say, surgeons and otologists up to the present refuse surgical intervention in these cases, because of its futility. Recently Schwartze admits the possibility of improvement to hearing by operation if a communication can be established and maintained up to the walls of the labyrinth. Attempts have been made to create an artificial external auditory canal, either through the occluding tissues or through the mastoid process (Moos, Ayers, Schwartze, Bolki, Kiesselbach, Krepuska, G. B. Mazzoni).

Report of two cases follows:

(Vali was not content with the result of operation in these cases.)

Schwartze is absolutely in error when he says that operation should depend upon the possibility of re-establishing the hearing. I believe that to be of secondary importance, and that the vital indication (retention of pus) justifies operation in all cases. The operation should be attempted near the obliterated canal. If the external canal is obstructed by a compact osseous mass, we should penetrate into the tympanum by an artificial opening made through the mastoid. (Schwartze first tried this method unsuccessfully; Krepuska's case was very successful.)

Conclusions as to congenital atresia:

1. From the prophylactic point of view, operation is indicated in all cases without restriction (vital indication).

2. The defective development of the temporal is not always the cause of the atresia; therefore the obstruction should be removed by way of the external canal, and the mastoid process attacked only in case of failure.

3. The operation should be performed at an early age.

4. One need not consider whether the hearing is to be improved or not by the operation, this being a secondary consideration.

II. The acquired form is of more frequent occurrence. Either total or partial; of connective or osseous tissue. Occlusion by connective tissue is ordinarily the result of an inflammation near the external auditory canal (parotitis, otitis media or mastoiditis), leading to ulceration and subsequent hyperplasia.

The writer reports three cases.

Conclusions as to acquired occlusion:

1. Operation is indicated in all cases without reserve, even when the obliteration is only partial (in complete occlusion).

2. The removal of the occlusion may produce improvement in hearing.

3. The renewal of the occlusion, by new adhesions, must be prevented, if possible, by means of Thiersch's transplantations.

Hot Water Syringing of the Ear.

Dr. Randall urges and demonstrates (*Philadelphia Polyclinic Med. Standard*) the importance of syringing with water above 105 degrees, especially for the removal of ceruminous masses. In a recent case his attention was called, by an assistant, to a plug which had resisted very persistent syringing, carefully employed. A glance showed large epidermal admixture almost constituting what is called "keratosis obturans," and promising a difficult task; but obtaining water of 109 to 110 degrees, straightening the canal well by traction and throwing a small stream at the most vulnerable points, the mass was swept completely out by the fourth injection of a two-dram syringe. Turning then to another new case with a history of intermittent obstruction for nine months, now for three months total on the left, in which the hard black mass had not been subjected to the least soaking or other treatment, he pointed out that such a prelude was wholly needless and often disadvantageous. The first syringeful was merely instilled, the second gently injected, the third more vigorously used, returned brown stained, and each subsequent two drams brought fragments of the plug, until with the twelfth the last portion, the firm cast of the drumhead, was washed into the cup without causing the slightest pain or dizziness to the patient. The canal and drumhead were found clean and free from redness, and repetition of the procedure on the right side removed a plug apparently identical, but here the invisible crevices which had admitted the air and its sound waves, allowed of easier penetration of the fluid, and two, instead of three, ounces of water sufficed to complete the task.

As cases of impacted cerumen constitute one-seventh of aural practice, it seems well worth while for the practitioner to learn that efficient use of the syringe is not a matter of course, nor beneath his earnest attention; and that water as hot as can be borne is far less likely to disturb his patient, while many times as efficacious as the "warm" water generally advised. Dizziness, or even fainting, must be looked for in any case and the patient warned to announce the first feeling of the sort; but it is least apt to occur when the fluid is hot. Caloric is the most potent addition that can be made to the syringing fluid and can, as a rule, supersede all others, or the undesirable preliminary instillations which are so commonly employed.

Otitic Phlebitis of the Lateral Sinus.

M. Chipault presented to the Academy of Medicine the case of a little girl of 14 years who had suffered from an otitic phlebitis of the lateral sinus which had been cured by operation a year previously done by M. Lambotte of Anvers (*Sem. Med.; Am. Med.-Surg. Bul.*) The operation was done in three stages, according to the method recommended by Chipault.

1. Double ligature of the internal jugular, with section of the vein between the two ligatures and fixation of the superior end of the vein in the superior angle of the cervical wound.

2. Ligatures of the lateral sinus as near as possible to the torcular herophili.

3. Opening of the sinus and extraction thence of the thrombus; finally, complete disinfection with sublimate solution of the sinuso-jugular passage.

The patient left the hospital completely cured on the seventeenth day after the operation.

A New Method of Treating (by Digestive Ferments) Deafness due to the Sequellæ of Catarrhal and Suppurative Inflammations of the Tympanum.

A most interesting article is contributed by Dr. Cohen-Kypser, of Hamburg, in the *Archives of Otology*, vol. xxvi, No. 2. The author has conducted a series of experiments for the past four years, with various digestive ferments, observing their reaction on the tissues of the patholilical tympanum. The various changes occurring in chronic catarrh of the middle ear frequently result in the deposit of epithelial shreds, bands and membranes, and other hyperplasias of the connective tissue and mucosa. That form of chronic aural catarrh, designated as the sclerotic type, is the condition which is to be excluded from this form of treatment.

The author employs various solutions of digestive ferments, introduced into the middle-ear cavity for the purpose of promoting a digestion of the hyperplastic material, as well as of the connective tissue products, to dissolve them, if possible, or to discern their size, thus rendering sound conduction more easy. He employs dog's pepsin, in the proportion of 1 to 10,000, as the most satisfactory of the digestive ferments experimented with, claiming for it the best results, because of its rapidity in action.

With reference to its preparation in a suitable solution may be added that the solution must be chemically pure and previously passed through a bacteria filter. The percentage of hydrochloric acid should be of a concentration of a 15 per cent.

The amount of injected fluid is 2 or 3 desigrammes and should be introduced by means of a modified Koch's syringe. The canula of the syringe has an irregular bend, the needle tapering toward the point, and with a short bevel. To insure steadiness a piece of rubber tubing should connect the bulb to the glass cylinder. In compressing the bulb care should be taken to watch the flow of the solution, so that the entire amount may be inserted into the tympanic cavity. The patient should remain in a recumbent position, with the head turned to the opposite side, for about an hour after the injection. The solution should be employed warm, care being taken to avoid too high a temperature for fear of destroying the pepsin. It is important that the first injection be successful, as excessive irritation might be produced by an early repetition. A second injection should not be made before the lapse of several months. The use of an anæsthetic is often advisable, as the pain is frequently quite severe.

The procedure is simple in cases where suppuration has ceased and a perforation exists. In complete absence of the drum, or when there is a large perforation, a few drops of the solution are sufficient. A plug of cotton is placed in the meatus after the injection to prevent the dissipation of heat. The same procedure is adopted in total adhesion of the drum-head, where puncture and injection are impossible. When the perforation is too small or inconveniently situated, a blunt canula with a bent tip may be used, or a puncture made, posterior to the handle of the malleus. Occasionally the reaction may be accompanied by extensive irritation, but, as a rule, the pepsin solution causes no great pain. Usually the improvement in the hearing is perceptible on the following day. The results, however, are irregular in the time of their appearance. Frequently improvement first manifests itself at the end of about a week, when the conditions accompanying an acute irritation of the drum-head have subsided. Sometimes a decrease in hearing power is noted, but this rarely lasts more than a week. In general, it may be said that the improvement will be the more marked the earlier it appears, and that the chances are more unfavorable the later it shows itself.

The pathological conditions with which we are concerned in this method are the hypertrophic processes and consecutive tissue formations, particularly about the ossicles and their attachments. The treatment is only indicated in cases in which whispered speech is still heard near the ear. The results show improvement in about two-thirds of the cases. The treatment should only be adopted when other methods employed for the relief of these conditions have failed. Of one hundred and fifty cases of such forms of chronic catarrh treated the number which showed improvement was more than two-thirds of the total number treated.

A Case of Hemorrhage from the Carotid in Necrosis of the Middle Ear—Operation.

Abbe (*Pediatrics*, September 1, 1897, *Treatment*) reports the case of a child two and a half years of age, which for the space of one year was afflicted with a fœted otorrhœa. A profuse bleeding suddenly occurred from the diseased ear without any known cause, and seemed to be due to an erosion of the lateral sinus, secondary to a necrosis of the temporal bone. The jugular vein was tied, the sinus opened, and a tampon applied. After two days the patient died. At the autopsy the carotid artery was found to be plugged by a thrombus of septic origin, which obviously had caused an embolus to lodge in the middle cerebral artery, and thus had been the cause of the cerebral abscess and necrosis of the cerebral tissues. In the tympanic cavity was found a small sequestrum, seemingly a part of the semi-circular canal, lying in contact with an erosion at the bend of the carotid. It occupied about one-third of its circumference.

Facial Nerve Affected by Ear Disease.

Dr. M. S. Tompka (*Revue Hebd. de Laryng.*, *American Med.-Surg. Bul.*), gives two anatomical modifications which favor affection of the facial nerve in ear diseases, viz., dehiscence of the Eustachian tube and the stylo-mastoid artery. The otogenic causes of paresis are:

1. Colds which are limited to the head or ear.

2. Local affections of the ear, such as (a) reflex paralysis due to outer-ear and auditory-ear, (b) conditions found in middle-ear diseases; serous or mucous catarrhs; acute or chronic purulent inflammation of the tympanum; caries of the temporals, which is one of the most frequent causes, especially when it is accompanied by a complete necrosis of the labyrinth and caries of the wall; scalatinal, diphtheritic, tubercular, typhic or syphilitic middle-ear affections or leucemia.

3. Traumatisms, chemical and thermic.

4. Neoplasms of the auditory canal; polypi, sarcomata, etc.

5. Tumors of the face and brain. Hyperostosis penetrating into the internal canal and involving the facial nerve.

The progress is more favorable in acute than in chronic cases. The persistence of the normal electrical reaction of the nerve indicates a favorable prognosis.

Visual Aid in the Oral Teaching of Deaf-Mutes.

An interesting scientific point has been raised by A. Farrar, Jr. A test for the pitch of a musical note has been provided in the shape of a pinch of fine powder sprinkled over a sheet of glass. When the glass is struck by the vibrations of musical sounds the particles of the powder on its surface assume all manner of beautiful designs—many of them resembling the branches of trees, flowers or birds—according to the note given. It has also recently been found possible to give a graphic representation of the human voice by photographing on a highly magnified scale the indentation made by the stylus of the phonograph on the waxen recording cylinder. The difference in voice production, as thus shown, is astonishing, and any departure from perfect smoothness of tone is at once seen in the increasing ruggedness of the indentations. It has been proposed to utilize this system of "seeing the voice" in vocal schools by a regular method of comparison of the records of pupils with those of eminent artists. The question of the practical application of such visual reproductions in the oral education of the deaf has also been frequently mooted, but in neither case has any useful result so far accrued. As is well known, the speech of orally educated deaf-mutes is not usually so natural, and hence not so easily understood as that of those who hear. This is chiefly due to the absence of the controlling action of the hearing. If this could be supplied by visual means much might be accomplished. Mr. Farrar suggests that physicists should take up this question, with a view to devising simple and efficient apparatus by which an orally taught deaf-mute could test his speech to ascertain how far it corresponded in inflection, etc., with that of his teacher or other hearing person, and could regulate it accordingly. The invention of such a device would confer a great practical boon on both the deaf and their teachers.—*Ex.*

Bell's Palsy and its Electro-Therapeutics.

A review of forty cases of peripheral facial paralysis, seen in the electrotherapeutic department of the Salpêtrière of Paris, is cited by W. S. Hedley in *Treatment*, July 8, 1897.

The causes as enumerated are: Tumor, 1; injury, 3; syphilis, 5; erysipelas, 1; otitis, 4; cause undetermined, 9; *a frigore*, 17. The greater frequency in women is attributed to the absence of the protection afforded by the beard. Another series of cases is cited in which much stress is laid upon the family history of the patients, indicating a weakness, hereditary or acquired, of the nervous tissue.

The probable duration of this form of paralysis of the facial nerve may be foretold with some accuracy by means of electrical exploration. "Recovery may be hastened by electrical treatment, and in severe forms the incurableness of the affection may be prevented, complete restoration of function promoted, and the onset of contracture and spasm combatted.'' The effect of the continuous current in increasing the excitability of muscles is strikingly seen in the improved ability to close the eyes immediately after galvanization. *The electro-therapeutic formula* may be given as follows: Place one electrode (anode) having a diameter of 1½ inches over the auriculomastoid fossa of the affected side; the other electrode, 2x2, in the corresponding position on the sound side. Use a continuous current stabile, intensity 2 to 4 m.a., duration two minutes. Make and break very gradually. *Peripheral* treatment: Apply one electrode (anode) 2x2 behind the affected ear. The other eloctrode ¾ in diameter is used labile over the affected muscles in the direction of the ramifications of the plexus anerinus, intensity 3—4 m.a., duration three to four minutes. The movement of the electrode is in a circular direction over the orbicularis palpebrarum. Strong Faradisation has been blamed, and probably with justice, for inducing contracturé.

Census of the Deaf.

According to the eleventh census, the total number of deaf and dumb persons in the United States was 41,283; of these 22,783 were males and 18,500 females. Of this number 38,158 were white, 3,929 native born, 4,229 foreign born, 3,125 colored; of whom 1,775 were males and 1,350 females. Mulhall's statistics of this class contain figures gathered no later than 1871, and at that date there were of these unfortunates in Great Britain 19,237; France, 21,130; Germany, 30,900; Austria, 34,450; Italy, 9,800; Spain, 10,700; Switzerland, 6,828; at the same date, or by the ninth census, the United States had but 18,150. It is the observation of Mulhall and other statisticians that this class increases at a ratio greater than that of the increase in population. There are many points of similarity between the sign language employed in Europe by the deaf and dumb and that in use in this country, though, of course, there is also wide variance in minor detail.

Valvular Action of the Eustachian Tube.

In a case exhibited by Gompertz before the Austrian Otological Society (reported in *Journal of Laryngology*, Oct., 1897), a very important point in connection with the physiology of the Eustachian tube and tympanum is illustrated. The superior half of the membrane in general, and the postero-superior quadrant in particular, bulged to a very remarkable degree. Gompertz attributes this to overfilling of the tympanum with air, owing to a pumping action of the Eustachian tube, as if by a kind of vermicular movement air was carried up the tube into the cavity of the drum. This would result from the following mechanism:

If the tube, having gaped more or less in its whole extent, closed first at its pharyngeal extremity, and then in the remainder of its length from within outwards, air would be carried into the tympanic cavity so rapidly as to produce over-distension. Physiologically, this takes place within certain limits, and we are bound, with Secchi (Roman Congress, *Journ. Laryng.*, VIII, p. 405), to admit that without some degree of distention of the tympanum, the convexity of the radial fibres of the membrane pointed out by Helmholtz cannot be explained.

Under abnormal circumstances, such as the nasal disease found in Gompertz' cases, the process becomes exaggerated and a most puzzling appearance of the membrane is produced. D. G.

The Functions of the Cochlea.

Dr. Hammerschlag, at the last annual meeting of the Austrian Otological Society, in the discussion of this subject, draws fairly convincing conclusions.—*Journal of Laryngology*, October, 1897.

He adduces arguments in favor of the view that the hearing of a musical tone depends on the setting into vibration of a few fibres of the basilar, while for noise the whole set of fibres are more or less shaken up. On the assumption that the hearing of low tones is a more delicate function than that of high ones, he holds that when the auditory nerve trunk as a whole is affected in an incompletely destructive lesion the finer function is the one most readily and soonest impaired. Hence in such a lesion of the trunk there is "nerve deafness" with diminished hearing for the lower tones. In the labyrinth, on the other hand, the most vulnerable part is the lower turn, which is believed to subserve hearing for the higher tones. When, then, with nerve deafness the loss of hearing is chiefly for such tones, we may assume that the lesion is in the cochlea. These views afford interesting confirmation of those of Gradenigo, which have been frequently cited. D. G.

PRESCRIPTIONS.

Red-Gum Gargle.

℞	Kali. chlorat.	ʒii.
	Aq. bull	℥iv.
	Alumin. pulv.	ʒii.
	Aq. rosæ fort	ʒxxi.
	Glycerine	ʒiv.
	Syrupi	ʒiv.
	Fl. extr. eucalyptus rostrata (red gum)	ʒiii.

M.: Dissolve the potassium chlorate in boiling water, cool and reserve. Dissolve the alum in the stronger rose water, add the glycerine, syrup and fluid extract of red gum in the order named; then add to potass. chlorat. solution.

Sig.: Add to an equal quantity of water and gargle every three or four hours.—England, in *Phila. Polyclinic.*

Hoarseness.

℞	Liq. ammoniæ	♏. xl.
	Syr. hedge-mustard	℥vi.
	Infus. linden flor.	℥x.

M. S.: Tea to tablespoonful, as required.

NOTE.—This syrup is known in France as "*Foreau's Syrup.*" Foreau was physician to the Emperor Napoleon, and was frequently compelled to prescribe it, as Bonaparte was very subject to sudden attacks of hoarseness.—*National Druggist.*

Lœffler's Diphtheria Solution.

℞	Menthol	grms. 10
	Toluene	q. s. ad. c.c. 26
	Creolin	c.c. 4
	Alcohol	q. s. ad. c.c. 100

M. S.: Saturate cotton swab in solution, squeeze out excess, and apply for ten to fifteen seconds to membrane. Applications to be made every three hours.

BOOKS AND PAMPHLETS RECEIVED.

The Progress of Laryngology and Rhinology. By St. Clair Thomson, London. Reprint, *British Medical Journal*, June 19, 1897.

Tuberculosis of the Tonsils, Pharynx and Larynx. By L. S. Somers, Philadelphia. Reprint, *Med. and Surg. Reporter*, May 29, 1897.

Troubles Nerveux, en rapport avec les Maladies de l'Oreille. By A. Foucher. Reprint, *L' Union Medicale du Canada*.

Adductor Vocal Paralysis. By L. S. Somers. Reprint, *Medical News*, June 26, 1897.

Pemphigus Chronicus Vulgaris of the Mouth and Epiglottis. By Lewis H. Miller, Brooklyn. Reprint, *N. Y. Med. Jour.*, July 3, 1897.

The Influence of Diseases of the Nares and Pharynx on Aural Affections: A study of six hundred cases of middle-ear disease. By L. S. Somers. Reprint, *University Med. Mag.*, August, 1897.

Headache from Nasal Causes. By Sargent F. Snow, Syracuse, N. Y. Reprint, *Med. News*, July 10, 1897.

A case of Chronic Ulcerative Tuberculosis of the Fauces and Larynx—Possibly Primary. By Richmond McKinney, Memphis, Tenn. Reprint, *Memphis Med. Month.*, September, 1897.

NEWS ITEMS.

The American Pediatric Society

Is making a Collective Investigation of Infantile Scurvy as occurring in North America, and earnestly requests the co-operation of physicians, through their sending of reports of cases, whether these have already been published or not. No case will be used in such a way as to interfere with its subsequent publication by the observer. Blanks containing questions to be filled out will be furnished on application to any one of the committee. A final printed report of the investigation will be sent to those furnishing cases.

The Committee consists of: J. P. Crozer Griffith, M. D., Chairman, 123 S. 18th St., Philadelphia; William D. Booker, M. D., 853 Park Ave., Baltimore; Charles G. Jennings, M. D., 457 Jefferson Ave., Detroit; Augustus Caille, M. D., 753 Madison Ave., New York City; J. Lovett Morse, M. D., 317 Marlboro St., Boston.

Western Medical and Surgical Gazette.

This new aspirant in the field of medical journalism, hailing from Denver, Colo., is announced, under the editorship of Drs. Wm. N. Beggs and Lincoln Mussey.

Our personal acquaintance with the editors supports us in the prediction of a bright future and of an ably managed journal.

Throat, Ear and Eye Section of the Cuyahoga County Medical Society.

The annual meeting of the Throat, Ear and Eye Section of the Cuyahoga County Medical Society, was held Tuesday evening, Oct. 5th, at Cleveland, O.

The following officers were elected for the ensuing year: Dr. C. W. Smith, President; Dr. J. M. Ingersoll, Vice-President; Dr. Wm. E. Shackleton, Secretary and Treasurer.

The Section numbers about thirty active members, and meets monthly during the winter. Many interesting specimens and patients have been presented to the Section, and the discussions have covered such a wide range of subjects that many practitioners, not actively engaged in special practice, have found it profitable to attend the meetings of the Section.

Removals.

Dr. Clarence R. Dufour has removed to 1016 14th St., Washington, D. C.

Dr. Emma E. Musson has removed to 258 S. 16th St., Philadelphia, Pa.

Dr. J. Barnhill has removed to 412 N. Delaware St., Indianapolis, Ind.

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ORIGINAL COMMUNICATIONS.

REMINISCENCES OF THE INTERNATIONAL MEDICAL CONGRESS AT MOSCOW.*

BY J. W. GLEITSMANN, M.D., NEW YORK.

While endeavoring to give you a short report of my experience at the International Congress, and of the work done in our Section, I cannot do so without at least briefly referring to some features of the Congress, which, although not strictly belonging to a scientific résumé, will enable you to judge about the general management of the Congress, the efforts made by our Russian confrères to make the Congress a success, and the kindness and hospitality shown to the visitors. The impressions received in a country so entirely at variance with anything we were accustomed to see, the endeavors on the part of the Russian colleagues to make us comfortable and feel at home, were such that I cannot pass them over silently. If I should, for these reasons, curtail the report of our Section work, I offer you as an apology, that I make my remarks partly from memory and partly from abstracts distributed by the speakers, as I have taken no notes of our proceedings, which you will be able to read in better and fuller form in our special journals.

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*Read before the Section of Laryngology of the New York Academy of Medicine, October 27, 1897.

The number of members at this year's International Congress was larger than at any previous one, which naturally brought some inconvenience to a number of visitors, in spite of the unceasing labors of the Reception Committee. But members who had in time addressed the Committee found, as a rule, their rooms ready for them; and besides, a large number were quartered in Moscow, as well as after the Congress in Petersburg, in the private apartments of wealthy Russian families, who had offered their residences to the Russian physicians for the use of the Congressionists during their absence from the city.

It was but natural that among the large number of members present not a few visited the Congress who contributed little or nothing to its success, but who came for social or other reasons. The next Congress being in Paris, in 1900, probably during the time of the International Exposition, I took occasion to speak about this point with several representative French physicians, and was glad to meet with a hearty reciprocal sentiment on their part. As it will be the office of the French Committee to make arrangements to this effect, I cannot anticipate their action, and will only say that it is intended to create national committees for each Section in the different countries, which committees will have a greater influence in Congress matters than heretofore.

As I do not wish to appear partial, bestowing universal praise and overlooking shortcomings, I shall mention two points, which more than others were a source of considerable dissatisfaction: The membership cards and the free passes for the Russian railroads, granted by the government, were in some instances forwarded so late to the individual members that they did not reach them in time, compelling them to travel at their own expense. Another cause for complaint was the bureau of registration, which also distributed the daily journal and the various announcements. The bureau of registration was located in the Manège, a building of large dimensions, where spacious stalls were allotted to the different Sections for members to meet. These stalls were very little used, and part of their space would better have been turned over to the registration bureau, which was, by far, not large enough to meet the demands made upon it. There was also a deplorable absence of officers speaking the languages of the different countries fluently, which difficulty was only overcome by the ever-readiness of Russian or other confrères conversant with the vernacular of the foreigner. The daily journal, giving the scientific programme of the day, the social features, events at the different institutions, etc., was not ready for distribution before 10 a. m., which caused great inconvenience, as the Section meetings began at 9 a. m. Another drawback was the failure of publishing a list of the members who had registered, and it was impossible to learn from official sources who was present. Aside from these two points, I did not hear of any complaint worth mentioning, but many words of praise for the friendliness and universal courtesy of our Russian colleagues.

The majority of the rooms assigned to the Sections were near the Manège in the University buildings, and were spacious, well-equipped halls. The Laryngological Section was specially favored with a large, quiet room, capable of seating a much larger number of members than were present. The first session was held on the evening of August 19, when the election of officers and Vice-Presidents took place. The first scientific meeting was held the following morning, and the French referee being absent, I had the pleasure of opening the proceedings with my paper on the progress made in the treatment of laryngeal tuberculosis since the last International Congress. As the paper will appear in the *Medical Record*, and a résumé of it has been given in the *Journal of Laryngology* of this month, I shall not detain you with an extended synopsis.

I stated that, in my opinion, the treatment could be very properly divided into three chapters: the medicinal, local and surgical treatment; and mentioned under topical agents, the sulforicinate of phenol, extensively employed by Ruault, the parachlorphenol recommended by Simanowsky and Spengler, and a preparation called ''Enzymol,'' mentioned by Murray in his paper before the last meeting of the American Laryngological Association, which is said to absorb quickly the detritus covering ulcerations, and to serve as a good auxiliary to the curette. As to the surgical treatment, I felt justified, from information received from different quarters, to say that it has found more favor during the last few years among the American profession, and is more extensively employed. After speaking about the indications and contraindications of surgical treatment, I mentioned Chappell's method of submucous injections of creosote in oily solutions and Scheppegrell's application of cupric interstitial cataphoresis, on which subject he also presented a separate and exhaustive essay.

Other contributions regarding the subject were by Botey, of Barcelona, who considered lupus cases suitable for curettement, but otherwise restricted its indications for tuberculosis. Gavino, of Mexico, finds curettement dangerous in the interior of the larynx, and a few minutes thereafter applies a strong solution (50 perc.) of peroxide of hydrogen. Przedborski spoke of the efficiency of sulforicinate of phenol, and finally, Chiari, Hajek and Moure made remarks on curettement, recommending its use, but a careful selection of cases. It was a source of great regret to me and others that the two gentlemen present, who are the most ardent advocates of curettement, and have probably the largest experience of its intrinsic value, viz., Heryng and Krause, did not take part in the discussion.

In the afternoon Hacker, of Innsbruck, spoke of œsophagoscopy, which he demonstrated on the living subject, and showed a large series of colored drawings, representing a great variety of normal and diseased conditions.

The morning session of the second day, at which the speaker had the honor to preside, was occupied with the discussion on diagnosis and treatment of cancer of the larynx, opened by Chiari, of Vienna, and Catti, of Fiume. Whilst the latter spoke at length of the diagnostic features, Chiari confined himself to the treatment. He considers endolaryngeal operations of doubtful value, and expects the best results from laryngotomy, if only one vocal cord or ventricular band has to be removed. In such cases the respiration, as a rule, is not interfered with by the operation, the voice is preserved, and the patient is not obliged to wear a tracheal canula.

In the discussion following these essays a large number of members took part, but as not one among them mentioned the method adopted by Solis-Cohen and others, I referred to the successful case in which Solis-Cohen had sewn the trachea to the outer skin after total extirpation of the larynx, with preservation of a moderately strong voice.

The referees on Roentgen rays being absent, Dr. Hutchinson, of London, showed in the afternoon beautiful and numerous photographs made by McIntyre, of Glasgow, whose persevering and successful efforts in this line are well known.

On the third day—a Sunday—Krause, of Berlin, read his report on the etiology and treatment of the loss of the human voice. He mentioned as general causes, chlorosis, anæmia, neurotic disposition; as special causes, inability to control the vocal organ, insufficient development of the larynx, faulty teaching, and the local diseases of the mucous membrane. He was followed by Heryng and Hellat, who analyzed the manner of respiration during singing, and expressed himself in favor of the abdominal type.

On the fourth morning the Laryngological and Pediatric Sections had a joint meeting for the discussion of serum therapeutics of diphtheria, but, as I could not be present, I cannot report the proceedings. In the afternoon I showed, in the absence of Dr. French, of Brooklyn, his elaborate album, which contains not only a complete series of photographs from the beginning to its present state of perfection, but also drawings of the different instruments, and cameras in their state of gradual development. As Dr. French had demonstrated his photographs of larynx and rhinopharynx at the October meeting of this Section a year ago, it is needless to comment on his work, with which you are familiar. With his permission I show you the album, which he kindly loaned me for this occasion.

The following morning was taken up by reports of the referees, Hajek, of Vienna, and Moure, of Bordeaux, on accessory sinus diseases, the maxillary sinus excepted. Hajek gave a very clear and complete exposé of our present knowledge of the etiology and diagnosis, laying stress on the use of the sound as the most valuable help to diagnosis in latent empyema, and Moure spoke of the treatment. Other contributions to this subject were made by Jansen, of Berlin, who is known for his radical method of operating, and by Scheier, of the same place, who investigated the presence of the sound in the frontal sinus with the aid of Roentgen rays. In five cases out of thirty the sound could be seen in the sinus, and in some cases, where he believed to have entered with the probe, the rays proved its presence in the ethmoidal cells. He also spoke of the use of the Roentgen rays for the physiology of the voice and speech, and said that with their aid the movements of the palate, the position of the hyoid bone, the epiglottis and larynx can be investigated.

At the last session on Wednesday several short papers were read, f. i., by Cozzolino, on Ozæna; by Lichtwitz, on illumination with acetylene; by Jacobson, on a new method of measuring the permeability of the nose; by Heymann, on laryngeal catarrh, etc. Before the adjournment the usual speeches were made, and on this occasion the English language was heard the first and only time in the meetings of the Section, when I spoke words of farewell to the President. All the papers were read and the discussions conducted in German or French.

The Russian hospitality, which showed itself in such a magnificent manner on this occasion, impressed me mainly to be two-fold in character: On one side, the unobtrusive, quiet, hearty reception with which one is welcomed without ceremony in the family circle, making one feel at once at home, and on the other, the lavish and gigantic arrangements on public occasions. The majority of Congressionists traveling via Varsovie to Moscow found already at the railroad stations everything prepared for them: well-cooked meals in great variety at very reasonable prices, and members of the committee attending to their wants. On arrival at Moscow we were taken in charge by the Reception Committee, and everybody who had his room engaged could drive there without delay. The first general meeting at the large Moscow theater was a very impressive ceremony, the theater being brilliantly illuminated, and the stage transformed into a platform, filled to the utmost with delegates and representative men from all countries.

On the evening of the first day the general reception of the Congress and its guests took place in the new magazines, opposite the Kreml. They were built several years ago to replace old shops, and cover the immense area of 40,000 metres. In their halls played and sang seven different bands and choirs, and the corridors and galleries were large enough to accommodate and to regale the 10,000 persons present. The next evening the Section was invited by its President and Secretary to a most sumptuous dinner at one of the fashionable parks of Moscow. One of the peculiarities of public dinners in Russia is the so-called Zakucka, a cold lunch, served in a separate room before the dinner and consisting of a great variety of smoked fish, in which Russia excels, the famous fresh caviar, and a large array of appetizing dishes, to be consumed with different beverages. This intended appetizer is then followed by a regular dinner. There was, further, a concert and ball in the club of the nobility; a reception by the Moscow physicians in another large park; a Section dinner; besides, other affairs which I could not attend. After the adjournment of the Congress the majority of the members went to St. Petersburg, where we were equally well received and taken care of. The most enjoyable reunion was the dinner given by the St. Petersburg laryngologists and otologists to their colleagues. An invitation by the Czar to Péterhof was extended to the delegates and Vice-Presidents, who were conducted there on Imperial vessels, invited to a sumptuous lunch, and driven in Court carriages through the park and shown the different castles. It would occupy too much time to tell you about Russian life, the cities, so foreign and peculiar in character, the medical institutions, etc. But of the latter I must mention two, of which no better in their line can be found anywhere, viz.: the Institute for Experimental Medicine in St. Petersburg, and the Otological Clinic of Dr. von Stein in Moscow. The latter is built in the large quarter, where all the clinics of the University are located, and owes its existence to the large donation of 800,000 rubles given by Mrs. Bazanova. The medical life at all these University clinics is very active; and I also saw at the Laryngological Clinic of Professor Simanowsky in St. Petersburg all the modern appliances and instruments we are accustomed to see in good European and American institutions.

In conclusion let me say that, aside from the satisfaction and pleasure derived from the scientific meetings and the social entertainments, I shall always cherish the memory of having seen the City of Moscow, with the Kreml, and its 450 churches and their golden cupolas, of which the Church of the Savior is the just pride of the city, and St. Petersburg, with its many palaces, and the Isaac's Church, with its columns of lapis lazuli and malachite—a memory which more than compensates for the fatigue of the long journey.

SOME FORMS OF CATARRH AND THEIR CURE.

BY FAYETTE C. EWING, M.D., ST. LOUIS.

Fellow of the British Rhinological, Laryngological and Otological Association; Laryngologist to the City Hospital; Laryngologist to the Missouri Baptist Sanitarium and Surgeon-in-Chief to the Out-Door Department for Diseases of the Throat, Nose and Ear; Aurist to M. E. Home, Etc.

The general practitioner is wont to declare, "You can't cure catarrh," yet this is but an abbreviated phrase that expresses a fraction of truth. Did he affirm, "You can't cure some cases of catarrh with local applications," he would tell the whole truth, and nothing but the truth, and the honest rhinologist, who can see further than his nose, would be compelled to acquiesce. Nevertheless, we unhesitatingly pronounce most cases of catarrh curable, but with many of them local medication of the inflamed area forms an insignificant part of the treatment. There is a principle in therapeutics as old as the hills, and quite as discernible to him who can focus facts behind his retina, that to cure disease you must *remove the cause.* But as many see the mountain in front and miss the sheen of the sunset beyond, so physicians persist in treating the palpable effect, and are blind to the obvious cause.

Nasal obstruction means nasal catarrh; it may not be to-day, but must be to-morrow. The local irritation, interference with drainage and rarefaction of air in the post-nasal chamber, insure a pathologic sequel. Spray and applications avail us nothing, while obstruction remains. Water will not wash away a wart, nor is it easier to press in place the deflected bony or cartilaginous septum with astringent douche, or blow it back with cloud of medicinal dust. Unguents may undermine scabs but they cannot disintegrate osteoma nor soften enchondroma. And he who goes contrary to the rule of cause and effect seeks to dislodge the foundation stone of rational medicine. It is not uncommon to see perfectly healthy persons victims of an irritant catarrh, since the physical defects that supply the cause are often congenital or the result of traumatism. In such cases when we remove the cause nature does the rest. The density of the air in the post-nasal chamber is restored, proper drainage is secured, the Schneiderian membrane becomes healthy, and function returns. Respired air is washed of germ and sifted of dust, and the necessary humidity maintained. The patient being healthy, not in part but in *whole*, by inviolable law, must get well, for the perfectly healthy body cannot maintain local disease without a local irritant. With untied hands nature never stands still, nor does she need a medicated excuse to do her duty. So we say, such catarrhs can be cured; not only cured, but from them we secure our most brilliant results. Dealing with them we may "throw physic to the dogs," with knife and saw we do our work, *sans peur et sans reproche.*

Far be it from our purpose to advocate operative procedure in all cases of catarrh. It is when we have obstruction dissociated from diathesis, and disease dependent upon obstruction, that we would employ the knife. The possible restoration or establishment of the normal relationship between septum and turbinal is the one indication for operation. The nasal passages of different individuals vary greatly in size, according to the shape and dimensions of the organ. There are noses so roomy that quite prominent projections occasion no interference with the volume of air. In extreme cases they serve rather a useful purpose in reducing the dimensions of an abnormal cavity, thereby facilitating the physiological function of the turbinals. When we have to contend with

DIATHESIS,

as a factor in the production of catarrh, mindful of one law, let us attempt no patchwork therapeutics, but seek to build up a body. It is here that the graduated specialist fails in results. He is essentially a localist, and works through organ and not through system. No matter what his academic training, it does not conduce to the broader view. He is handicapped by time. "Rome was not built in a day," and the specialist should be made, not created. Of diathesis, we may say, some are born with it, and some achieve it, but, however it may be acquired, it is not to be eliminated in a week nor a month by any hocus-pocus of medication nor antagonism of drugs. Not by the treatment of one organ, but the entire body; nor with one therapic resource, but many may we expect to eliminate the numerous influences that have conspired to produce a dyscrasia. Through a slow eutrophic process we effect our change that is not to be the temporary good feeling of the time, but the lasting accompaniment of renewed vitality. The conditions resultant from the catarrhal diathesis are many, their manifestations protean. It may be simple intumescent rhinitis, the plugged rhino-pharynx of adenoids, the hypertrophied tonsils, the gelatinous polyp. Or, the catarrhal tendency may dive deeper and show itself in laryngeal cough, trachial and bronchial discharge, the dreaded "winter cough," or worse, a vesicular catarrh, to end in disintegration. Not content with smiting the respiratory tract in spot and throughout, the hydra-headed guest takes another turn and there is gastric catarrh. Step further and the intestines are involved. Through auto-inoculation, gastro-intestinal catarrh, by deranging the general system, may be responsible for, and perpetuate inflammation in the nose, pharynx and larynx, and in a multiplicity of organic disturbance disease of one organ "fans another's fire." Who ever saw the simple nasal or pharyngeal catarrh of the confirmed dyspeptic get well and stay well with the gastric condition unchanged? We constringe and cauterize the intumescent turbinal, but the swelling returns; we ablate tonsils, and curette adenoids, but laryngo-pharyngeal hyperæmia blooms to plague us. Finally, the consumptive ghost, whom it may be our unthanked office to "lay," stalks in. By such methods we have eradicated nothing but confidence. All the chronic acid in Christendom can't cure catarrh dependent upon constitutional depravity. True, we may burn until only unresponsive and non-weeping cicatricial tissue is left, but in such event, like true allopaths, we have merely substituted one condition for another. And, in our generosity, we have given more than we took. It is in such cases that the physician needs his nerve, nerve for that candor which can contemplate a probable loss of fee. But there need be no misgivings. It pays to tell these patients the truth—truth that acknowledges no specific—to hoist the signboard that points no royal road to health. He who is master of the system, who is not mentally myopic, will invoke the aid of

HYGIENE,

as of first importance in this doctrine of physical regeneration. To undo the diathesis is the mission of all remedies. If this be not altogether possible, we can, at least, modify it. The accomplishment of either result may mean the repression of natural taste, the curtailment of appetite, the renouncement of habit, abundant self-denial, the giving up of vocation, or even removal to another clime. Environment, occupation, exercise, food, clothing, sleep, rest and habit must be carefully considered. The many little drains upon the body's vitality must be unsparingly condemned if they conflict with our purpose. Ours is an animal economy, and animals are not bred in cages. We need exercise, not the exercise that develops one organ while the others are quiescent, but the fuel that puts every wheel and cog and band in motion. One secret of the Englishman's superior physique is his regard for athletics and outdoor sport and life. Nor do I mean the distorted vision that exalts college gymnastics into academic honor, but the common sense that regards the healthy body as an indispensable requisite to happiness and good mental and physical work. There has been a notable increase in the size of New York young women during the last decade, brought about through the promotion of athletics, notably rowing and tennis. The tennis court, rowing, hill-climbing, the bicycle (with limitations), the Country Club, are blessings to the urban resident, and should receive all encouragement from the city physicians. Gymnasiums confine and necessitate the breathing of vitiated air. For these reasons, and the fact that they do not supply the mental exhilaration of "green fields and pastures new," they can never take the place of exercise in the great open.

Nothing contributes more to bodily resistance of cold, and is more tonic in its effect, than the cold bath. Of course, some there are who cannot take it by plunge, but they may receive a like benefit from sponging. The system is made tolerant of draughts, and sudden exposure by teaching the arterioles to expand and contract, and the vigorous toweling restores warmth. Very delicate persons may take the sponge bath; the delay in its accomplishment is so little that the muscular movement precludes the possibility of catching cold.

Food is a most important consideration. The flabby, phlegmatic epicure should be put upon short rations until he has reached a dietary that he can assimilate. The candy-eating child must be encouraged to a healthier appetite. Stimulants, so-called foods, and warmth producers, have no place in our therapy. They spur a jaded steed. Their rejuvenation of an hour is the depression of a day. More neurasthenics there are from idleness than work. The *dolce far niente* maid or matron, groaning and growling under a weary life in a palace of luxury, must be given mental and physical occupation to stimulate sluggish organic function. The underground clerk will find the quitting of his vocation a prerequisite to cure. Thus must we strike at the parasites of health, for only by so doing can we achieve success. Of

MEDICINES,

There are few to aid us, but the few are of great value when judiciously selected and wisely administered. Drugs that are worthy adjuvants to hygiene may accomplish nothing, alone. This is in harmony with the keynote of this article. We require shot, not bullets, to bag our game. No drug that works with quick effect is more than a stimulant or palliative. Only those which, through the slow process of eutrophia, promoting excretion, elimination and nutrition by increasing organic functioning are of any continued benefit. We pour in iron and it lands in the liver, or passes unassimilated through the intestinal canal. Pepsin and the digestive aids are about as efficient as sugar of milk.

Most tonics are mere stomach congesters. They make the patient "feel good," but do not promote metabolic equilibrium. Frequently, it is not even this, but the mental effect of suggestion. Several months of astringent, antiseptic cleanliness may be sufficient to convince the expectant patient that he has received his money's worth, but too soon for our reputation his symptoms return. We have exchanged respect for dollars, and in time our more candid but less "promising" neighbor may win both. The only drugs we can depend upon in catarrhs, resulting from organic sluggishness, are

ALTERATIVES.

Of the subtlety of their beneficent action we know practically nothing. For one scientific satisfaction we might wish to, but for our utilitarian purpose it is unnecessary. Empiricism cannot always be rejected. Wood, a great scientist, long ago sought to impress upon the profession the avoidance of that narrowness that demands the whys and wherefores in the treatment of disease. Alteratives, by increasing nutrition and the constructive metamorphosis, eliminate disease from the tissues. Those that we may most rely upon are mercury, gold, arsenic and iodine. The remarkable results attained by the use of arsenic in certain anæmic, and the great benefit from iodine in catarrho-scrofulous conditions, are so well known to laryngologists and physicians generally that their discussion need not be elaborate. Keyes first pointed out the potency of mercuric chloride in minute doses as a tonic in the several anæmias. Nor was it necessary that the profession should be afflicted with Keeleyism for the demonstration of the exceptional catalytic influence of gold. That advanced scientist, Barthalow, was wont to dilate upon its value in his medical lectures two decades ago, and it was then that the writer had his attention first directed to it. The following combination, known as the "4 C's," that has become so popular with the profession in certain anæmias, owes its efficiency largely, if not entirely, to the mercuric chloride and arsenic it contains:

℞	Arsenici chloridi	gr. j.
	Ammonii chloridi	ʒij.
	Tinct. Ferri chloridi	ʒiv.
	Hydrarg. bichloridi	gr. jss.
	Syrupi	℥iij.
	Aquae ad.	℥vi.

M. Sig: ʒi, 4 times daily.

Two years ago there was brought to the writer's attention what he considers a better combination of almost the same remedies. Because of his experience with the above formula he was induced to prescribe arsenauro and mercauro. The increased efficiency is doubtless due to the gold they contain. These remedies commend themselves additionally by their elegance. In these days of refined pharmacy and æsthetic taste it is no enviable reputation to possess that of the nauseous doser. We are compelled to humor both optic and gurlatory nerve. Arsenauro and mercauro are beautiful to the eye and almost tasteless. They are given in doses of from five to thirty drops, the average patient taking about fifteen. Like all true alteratives their effect may be, and generally is, slow. They do not serve the purpose of saloonish medication. The introducers of these preparations make no claim to quick effects. The alteration of the conditions they are to reach cannot be effected except by slow processes —mercauro is indicated where there is liver torpidity, and arsenauro in cases where we have more of the neurotic element in evidence.

And so, in summing up our position with respect to the permanent cure of catarrh, we say seek the cause, nor mistake a symptom for the basic trouble. If the local disease is the result of obstruction, remove it; if the effect of faulty bodily habit, regulate life; if a simple manifestation of physical depravity, eliminate the dyscrasia.

Keeping to these ideas as our cardinal principles we may fail— and surely will with some—but we will have the satisfaction of knowing that no successor will succeed, to our chagrin.

Grand and Lindell Boulevards.

A CASE OF TRUE PAPILLOMA OF THE NASAL SEPTUM.

H. ARROWSMITH, M.D., BROOKLYN, N. Y.

H. P., a boy six years of age, of Swedish parentage, was referred to me by his attending physician, having for several weeks been troubled with repeated though slight attacks of epistaxis, his only other symptom being a moderate amount of obstruction to nasal respiration.

The family and previous personal histories were entirely negative. On examination of the nose, a growth was seen in the left nostril, about the size of an ordinary shoe-button, which presented the typical "cauliflower" appearance of papilloma. It was attached by a pedicle one-quarter of an inch in length, to about the middle of the cartilaginous septum, five-eighths of an inch posterior to the columna.

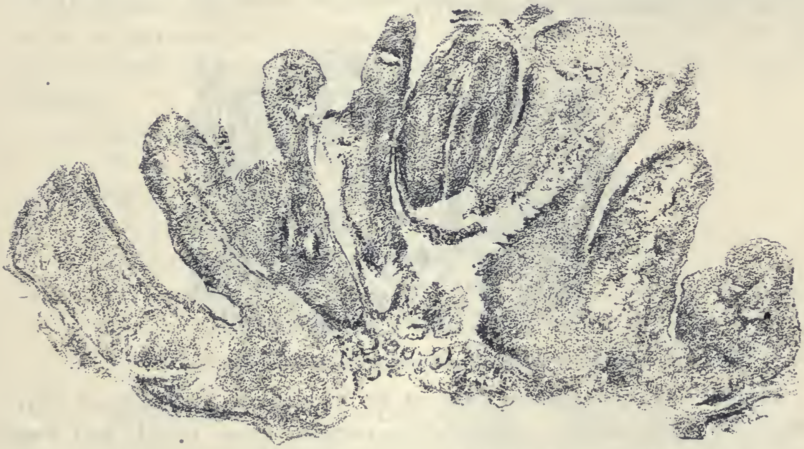

FIGURE 1.—Sketch of microscopic section. Drawn with camera lucida and Zeiss "A" objective.

The growth was easily removed with the cold snare, and its point of origin was touched with the galvano-cautery. Seven months later there was no indication of recurrence. A moderate amount of adenoid tissue was present in the naso-pharynx, removal of which was advised but declined by the child's parents.

The specimen was submitted to Dr. Jonathan Wright for examination, and was pronounced by him a "Typical Papilloma, consisting almost entirely of squamous epithelium arranged in layers, with papillæ formation; the superficial layers being stratified and corneous. 'Stickle-cells' were discernible with a $^1/_{12}$ O. I."

Interest attaches to this case because of the rarity of true papillomata of the nasal mucous membrane. It seems to be the only recorded instance of such an observation in so young a subject.

In a paper, read before the American Laryngological Association in 1891 (1, 2), Wright reviews the literature of nasal papillomata and calls attention to the very loose way in which the term has been applied. He also describes the anatomical points of difference between true papillomata and what he denominates papillary hypertrophies, under which name he declares that most of the hitherto so-called nasal papillomata should have been classed.

More recently, Dickerman has reported a case of his own and has again reviewed the already collected observations (3).

Mackenzie stated that he had met with five cases of what he considered true nasal papilloma (4).

Bosworth speaks of having seen one probable case among 200 patients with nasal new growths (5).

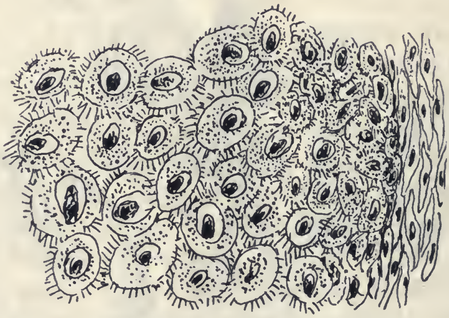

FIGURE 2.—Microscopic section Zeiss $^1/_{12}$ objective.

Wright has reported one case of his own, since his paper of 1891, when he enumerated, altogether, seventeen cases which had been described up to that time (6).

A case of true papilloma was shown before the London Laryngological Society in 1894, by De Santi (7).

Weil reported, at the May, 1895, meeting of the Vienna Laryngological Society, a growth removed from the septum of a woman, aged 67, which was examined by Zuckerkandl and pronounced a true papilloma (8).

Baber, at the December, 1895, meeting of the London Laryngological Society, presented a specimen removed from a man, aged 36, and in the discussion it was stated that including the case in point, up to that time, but three true papillomata of the nose had come before the society (9).

Hunter Mackenzie describes a case of general diffuse true papillomatous degeneration of the nasal mucous membrane (10).

Ripault has reported a case of "Confluent Papilloma of the Nose (11).

Zarniko, at the 67th Congress of German Naturalists and Physicians, in commenting on a case of his own, stated that it was the tenth known instance of true hard papilloma of the nose (12).

A. L. Turner describes a nasal papilloma removed by external operation (13).

In the Journal of Laryngology, etc., there is a bare mention of a paper by Borroz, of Barcelona, entitled: "Notes on a Case of Papilloma of the Right Nasal Fossa, with Histological Changes," without description or further reference (14).

Hellmann, of Wurzburg, reports at length and with great minuteness of detail a case of papilloma of the nose and frontal sinuses, which recurred many times and eventually assumed the characteristics of carcinoma, ending fatally after a duration of nine years (15).

Altogether, therefore, including the case here reported, there seem to be in literature but 29 instances of true papilloma of the nose and even in some of these cases the diagnosis is apparently by no means definite.

32 Schermerhorn Street.

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SPASMODIC NASAL STENOSIS, WITH SPECIAL REFERENCE TO A NEW NASAL TUBE.

BY AUGUST W. RINGER, M.D., CINCINNATI.

The active man in the practice of medicine is sooner or later confronted with cases of a chronic character, which no manner of medication seems to control in any great degree, and yet one is reluctant to acknowledge symptomatic therapeutics unsatisfactory.

The special student of rhinology is convinced at an early period in his studies that we have here frequently located a pathological state which, without doubt, affects the whole body. To illustrate the point, I will mention the case of a man, æt. 25 years, who for about two months suffered from diarrhœa and palpitation of the heart, alternately, and over which apparent intelligent medication seemed to have control only in a minor degree. During the end of the second and beginning of the third month the following symptoms were superadded in rapid succession, viz.: Cough, dyspnea, hemoptysis, loss of appetite, loss of sleep and asthenia. It is not often that I have seen so many symptoms due to one cause as in this case, as all of the above mentioned symptoms were present in a severe degree at the same time during part of the third month. Examination of the nasal passages in this case disclosed an osseous tumor, whose origin was the side of the nasal chamber, causing pressure upon the septum, probably in the course of the naso-palative nerve. The daily application of strong carbolic acid, limited to the apex of the tumor, relieved *all* of the symptoms within two weeks and brought about, without further medication, a renewal of strength and vigor.

It is not my object to call attention to tumors, but to a condition not infrequently met with in adults—*i. e.*, so-called nasal stenosis. The causes of stenosis may be divided into four groups: 1, deviated cartilaginous septum; 2, spasm; 3, growth, and 4, deviated osseous septum. It is the second class, stenosis caused by spasm, to which I wish to call attention. There are no pathognomonic symptoms. Chronic affections of the stomach and disease of the heart, besides other reflex symptoms are, in the patient's estimation, of more importance than a more or less obstructed breathing upon one side. These symptoms when found should call our attention to the nasal passages.

It is hardly possible that an examiner would mistake deflection of the septum or growths for a stenosis due to a spasm. The stenosis is generally unilateral. Upon raising the alæ with a speculum or thumb we find, on inspection, nearly on a level with the front of the maxillary bone, a slit-like opening—the osteum narium internus anterior is conspicuously discernable in this affection—this slit-like opening admits of the passage of a nasal dilator on its introduction to the post-nasal space; however, after the removal of the dilator the passage quickly resumes its former apppearance. By decided spraying for a few days, oil of vaseline being the best medicament, including the use of the dilator, we finally succeed in inspecting the passage. The opening is much smaller, tubular in character, and has not the configuration of the normal passage, and the turbinated bones are nowhere visible on anterior inspection.

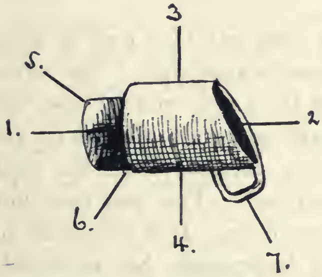

FIGURE 1. NASAL TUBE.

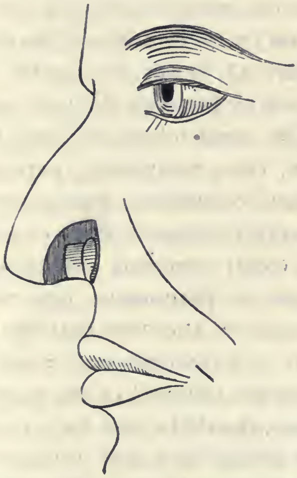

FIGURE 2. NASAL TUBE IN POSITION.

EXPLANATION TO FIG. 1.

1. Foramen anterior.
2. Foramen posterior.
3. Superior or part facing the nasal roof.
4. Inferior or part facing the nasal floor and upon which the nasal tube rests.
5. Septal or greater wing, a part contiguous to the cartilaginous septum.
6. External or lesser wing.
7. The annulus is placed at the inferior, near the posterior angle.

The prognosis is based altogether upon the character of the chronic inflammation and amount of hyperplasia, from which latter the spasmodic stenosis results. Not only, when not correctly interpreted, may the inflammation prove a fruitful source for a long invalidism, but also, when uncared for, there may be engendered a condition which frequently is the direct cause of many of the reflex troubles found in this class of patients. I believe that many of these reflex troubles are extremely dangerous to life and think that many sudden deaths should properly be credited to this trouble.

The treatment of the chronically inflamed membrane is that which is generally in use by all specialists, so that the management of the stenosis need only be referred to. For this I use a gold nasal tube which I have found very satisfactory and which gives great comfort to the wearer in this class of cases.

After the dilators have been used to such an extent that the tube can be introduced, we then have, in addition to the action of the tube as a dilator, a tube for breathing. The tube is easily introduced and removed by the aid of the ordinary splinter forceps, and at times by the finger alone. Should, at any time, the tube meet with obstruction on introduction this can readily be overcome by the ordinary dilator, with or without the oil spray. The tube, when in place (see Figure 2), is not discernible from the exterior and is not easily displaced by blowing the nose or hawking.

The nasal tubes are made for the right and left side and in four sizes, viz.: temporary, permanent, large and extra large. The temporary, or smaller, one is very convenient for a few months' use, although it occasionally becomes clogged with secretion, in which case it is easily removed and cleaned. After a variable time the next larger, or permanent, one may be substituted. This size does not require the attention that the temporary one does. It is advisable to wear this second size until the existing hyperæmia has subsided. After the removal of the permanent size, any relapse, from whatever cause, should be met by a reintroduction of the tube.

It should be borne in mind that to derive the maximum amount of benefit the tube should be made to fit the nose and not the nose the tube. There will, at times, be cases wherein, at the superior posterior angle, the lumen of the tube will be found too great; this, when present, will cause more or less irritation to the eye or that side.

To overcome this defect, bring the sides of the tube together for about the distance of two or three lines, just sufficient to overcome all unequal pressure. In case the septal wing causes pressure upon the septum this may be overcome by curving inwards, towards the lumen of the tube, a small part of the antero-inferiorangle.

The tube was made for me by Mr. Frank Rehbaum, 40 Clybourn avenue, Chicago.

1633 Freeman avenue.

EXPERIMENTAL WORK ON THE PENETRABILITY OF VAPORIZED MEDICAMENTS INTO THE AIR PASSAGES.*

BY HOMER M. THOMAS, A.M., M.D.,

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HISTORY OF THE USE OF INHALATION.

Hippocrates was the first to devise a simple apparatus for the purpose of inhalation. In the seventeenth century Bennett recommended inhalation for consumption. Infusions of aromatic herbs (Halitas) or even balsamic vapors (Suffitus) were used. The discovery of oxygen revived new trials in this line. It was finally abandoned, as that air contained but little oxygen, and it was thought the atmosphere would have a more beneficial effect. Some hydrogen, nitrogen and even carbonic acid were used by Beddocs. Well remembered is the recommendation to physicians of that time, and even to the present, to inhale the air of stables containing cattle. About 1820, chlorine and iodine were tried with favorable effect; also turpentine vapors in chronic bronchitis. Muriate of ammonia vapors, the steam of escaping sulphur springs, the salty air in salt mines and the smoke of Datura Stramonium furnish further examples. A decided step forward was made by the improvement of the technique in vapor productions; especially the possibility to break up mechanically the fluids in finest globules after having dissolved the medicaments. In 1858, Sales-Girons introduced the first transportable apparatus for the vaporization of medicaments, to the Academy of Science in Paris. The new method soon found enthusiastic adherents as well as bitter foes. The chief query was, how deep does the fluid enter the lungs? By experiments on animals and on men, by chemical examinations of sputa, by the laryngoscope, by inhalation of stained fluids, it was proven with absolute certainty by the friends of this method that it is possible that medicamentous fluids enter the finest bronchi and alveoli. The penetration into the alveoli of the corpuscular elements, coal dust, etc., by inhalation, was further proven. Peroxide of iron was found as a pigment in the lungs of miners, by Zenker.

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The various anatomical examinations of diseases introduced from inhalations due to industrial pursuits, as anthracosis, calcicosis (Zenker), and researches of Leon, Hirt, Steubner, G. Merkel, E. Wagner, Arnold, leave no doubt of the penetrability of lung tissue by fluids or corpuscles by inhalation. The logic of a possibility for a local therapy of the lungs seemed evident, and all available medicaments were tried, but critical observations and experiments soon limited the possibility of this method.

Dr. Adolph Schmid (Reichenhall) says, inhalation therapy cannot be regarded as a curative means; it has to play the more modest role as a supporting means to the other methods of treatment. It likely is able to influence diseases of the respiratory passages by modifying various symptoms. Within these limits it must be considered as a method to be employed with good reason, and difficult to do without.

J. Schreiber, in 1888, by pains-taking experiments, gave a fair explanation of the influence inhalation had on diseases of the lungs. He contends that finely pulverized particles may enter into diseased lungs through the bronchi and even into the alveoli; that in order to produce the application to the lungs in this way we must have a combination of pressure and aspiration effect. The pressure effect at the entrance of the respiratory passages must be felt equally at all portions of the lungs. In practice it has been assumed that aspiration is equal in both healthy and diseased portions of the lung; it is not remembered that there must be a difference. If the lungs have lost elasticity, so that new air no longer enters, it follows that substances mixed with air will not enter. The diseased processes which so lessen the elasticity are not sufficiently taught. It has been found that healthy animals exposed to air loaded with coal dust, the larger and smaller bronchi were reached in fifteen minutes; that animals with diseases of the lungs, as bronchitis, miliary tuberculosis, substances mixed with atmospheric air enter in even greater quantities than in healthy animals. But the distribution of substances is very uneven and differs to a surprising degree; for while coal dust can be seen in clumps in healthy lungs, nothing whatever appears in diseased foci. This general law applies not only for infiltrations and scars (that is, where there can be no air) but also for processes accompanied by ulcerated foci and cavities.

In an abscess wall, coal dust was not demonstrable, yet at the same time with equal constancy the coal dust was equally distributed in the healthy lung. In a number of rabbits two drops of oil of turpentine were, by a parenchymatous injection, introduced into the right lung; there was established an inflammatory process attended with a fibrinous exudate; the rabbits were all exposed to coal dust atmosphere with the result that in the injected lung no coal dust entered while in the healthy lung it did. There was doubtless an anatomical process which made it impossible to respire coal dust in the one lung but with easy facility in the other. It was found, however, when the injections were made into both lungs that the coal dust entered into both.

The result of these experiments demonstrates the fallacy of the assumption that the aspiration strength of the lung is identical for air and for bodies mixed with air. They show also that corpuscular bodies in the air do enter into diseased lungs and even under certain circumstances more abundantly than in healthy lungs. This phenomena may be explained from the fact that the aspiration strength of the diseased foci is decreased; in healthy foci increased, hence less resistance in healthy than diseased lung. If the anatomical process is only unilateral, then inhalation is negative; if bilateral, aspiration strength is even, and bodies mixed with air do enter.

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Do vapors act locally? The pathological processes in which vapors are used are associated with alterations in the respiratory mechanism and vital capacity of the lungs.

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One difficulty which has appeared to lie in the way of the thorough application of drugs to affected air passages has been in the unsatisfactory action, and hence imperfect construction, of the various atomizing inhalers furnished the profession. These instruments have either been too delicate in construction to permit the use of sufficient pressure to make possible a deep penetration of the vaporized medicament into the air passages, or became so easily clogged up with the medicament used as to create great annoyance in their use.

The instrument which I present to you is the result of some little time and effort spent in striving to secure an atomizing vaporizer which would overcome the objections mentioned and make it useful for the purpose desired. It consists of a heavy glass bottle, ten inches in length and twelve inches in circumference at its widest portion, narrowing at the top to a circumference of three and one-half inches. The bottle part is of very heavy glass and is tested to withstand a pressure of one hundred pounds to the square inch. The atomized vapor is produced through a tube of German silver, heavily nickle-plated, which is nine inches in length. Three inches from the lower end are two tubes, the ends of which approximate to within one-eighth of an inch of each other. The opening of the inner tube is one-third of that of the outer tube, which is one-half inch in circumference. When in use, the motive power being compressed air, varying in pressure from five to fifteen pounds to the square inch, enters the main tube and two-thirds of it is ejected at the mouth of the inner tube, the remaining one-third passing down into the medicinal menstrum, from which it assists in forcing a solid column of the medicament to the mouth of the outer tube. The whole mass is then projected in an atomized form against the inner side of the bottle near the top, from whence it falls in rivulets to the bottom of the bottle, the residue escaping from the top through an outlet opening, in the form of a very fine smoke-like vapor. A screw cap, within which is a screw-thread three-quarters of an inch in length, securely anchors the top to the bottle. I have found this instrument to be strong, durable, easily cleaned and perfectly antiseptic, and to meet the requirements of this special form of medication.

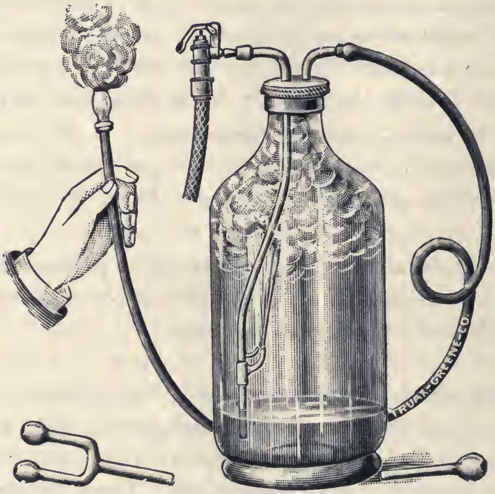

FIGURE 1.—Atomizing Vaporizer.

I have now to report my own series of experiments:

Experiment 1.—A kitten was placed in a plain box 21 inches in length, 11 inches in width, 12 inches in height, with dove-tail seams; a one-half inch hole, two inches from the bottom, was made for the entrance of vapor and a similar hole at the top for vapor exit. The vapor used consisted of 5 per cent pure iodine in a two ounce solution of lavoline. Compressed air, nine pounds to the square inch, produced the vapor in the inhaler. Vapor was introduced continuously for twenty minutes. The kitten was then removed and immediately killed by an injection of sixty minimums of 3 per cent solution of prussic acid, per rectum. The respiratory tract was dissected out and the starch test, for the presence of iodine, was applied to the air passages. Iodine was found present in the mucus from the mouth, on the tongue, in the pharynx and larynx; a typical iodine reaction was obtained the entire length of the trachea to just below the bifurcation to the bronchial tubes; a slight iodine reaction was found in the upper part of the larger bronchi.

Experiment 2.—Animal used, a kitten. A 10 per cent solution of the tri-chloride of iron in lavoline was evaporized in the box for twenty minutes. The kitten was then killed by a 3 per cent solution of prussic acid introduced per rectum. A solution of ammonia sulpho-cyanide was then used to determine the presence of iron salts. Result: A marked reaction in the mouth, tongue, pharynx and larynx. No test visible on the epiglottis, trachea, bronchi or air cells.

Experiment 3.—Animal used, a ten-pound dog. A 7½ per cent solution of pure iodine in blandine introduced into the box for twenty minutes. During this time the dog was much excited and made strenuous efforts to escape from the box; as a consequence his respiratory efforts were greatly accelerated. At the end of twenty minutes the dog was killed with a 3 per cent solution of prussic acid, per rectum, and the starch solution used upon the air passages to determine the existence of iodine. Result: There was a hyper-secretion of mucus which, tested with starch, showed the existence of iodine on the tongue, pharynx, larynx, trachea, larger bronchial tubes down to the medium-sized bronchial tubes. A microscopical examination of the mucus was found to contain iodine. There was also found iodine extending as far down as the openings of the smaller bronchial tubes. This experiment positively demonstrated that the starch test solution was colored by iodine to the mouths of the smaller bronchial tubes. There was no evidence of iodine in the pulmonary alveoli.

In the succeeding experiments a box of the following dimensions was used: 27¾ inches long, 18¾ inches high, 12 inches wide, inside measurements. Capacity of box equals 6243¾ cubic inches. A one-fourth inch opening was made in the middle of the top of the box for the entrance of vapor, and a half-inch opening two inches from the bottom for vapor exit.

Experiment 4.—Animal used, a guinea pig. Medicaments used, a 20 per cent solution of iodine in lavoline. Time, one hour. It is necessary to use the saturated solution because the iodine combines with the oil. A thirty-drop solution of prussic acid, per rectum, was used to kill the pig. A teased specimen from the lungs was made and iodine found to the openings of the minute bronchial tubes. The objection to the teasing method is that no positive air vesicle can be gotten into the microscopic field. For although epithelial cells covered with iodine may be found, yet it is possible they may have come from the epithelium of minute broncheoles. This experiment positively demonstrated the existence of iodine in the second subdivision of the bronchial tubes.

Experiment 5.—Animal used, a guinea pig. Time, two hours. Mixture used, a 10 per cent solution silver nitrate in glycerine and water. Pig killed with prussic acid, per rectum. Result: Grossly the lungs had a silver metallic lustre. Microscopic sections revealed metallic pigmentations. Paraffin sections showed pigment very beautifully surrounding air vesicles. (NOTE.—The guinea pigs upon which the foregoing experiments were made came from a laboratory of the City Hall and were kindly furnished by Dr. Adolph Gehrmann. As is doubtless well known, the air in the City Hall is far from being pure; is contaminated with sewer gas and carbon.)

Experiment 6.—Animal used, a guinea pig, taken from the City Hall. Killed by prussic acid, per rectum, without exposure to any vapor. Purpose, to make a microscopical test of the appearance in the lungs of a guinea pig which had and which had not been subjected to a vaporized medicament. Result: I was much surprised to observe that the appearance in the lungs of the vaporized and unvaporized pig were almost identically the same. Alveolar pigmentation was present in both lungs and appeared much the same. Query: Do not all guinea pigs have their alveoli pigmented? A general inquiry among my professional friends revealed a dense ignorance on this point. Being unable to satisfactorily clear up this vital point in vapor experimentation, I decided to secure a guinea pig from a source where the air was pure. Accordingly, Mr. E. R. Gibbs, of Norwalk, O., was communicated with and requested to send the lungs of a pig which had breathed an air of unquestionable purity. Mr. Gibbs killed a pig from his farm with chloroform, immediately dissected out the lungs and expressed them to me. A microscopical examination of the air vesicles showed that they were entirely free from pigment. Hence it was concluded that a guinea pig's pulmonary alveoli are, when respiring pure air, free from pigmentations.

Experiment 7.—Animal used, a guinea pig. Secured from a point well supplied with pure air. Medicaments used, lavoline, holding iodine in suspension. The per cent of iodine was not constant nor great. Time of inhalation, two and one-half hours. Death produced by prussic acid, per rectum. The lungs were removed whilst the heart was beating; were thrown into plain water; placed on a freezing microtome and frozen before the heart stopped beating. Sections were removed from the blade of the freezing microtome to a two per cent formaline, others to 1 per cent osmic acid. The formaline specimens after five minutes were mounted in water and examined. Result: The smaller bronchial tubes and air vesicles were filled with large, flat epithelial cells; many of these were loaded with fat; some of the fat was in small granules, some in globules about one-third as large as a cell. The other sections remained in osmic acid twenty-four hours, when they were washed with water and stained with saffranin and mounted in Canada balsam. The osmic acid specimens showed the fat stained black; the fat is clearly within the cell.

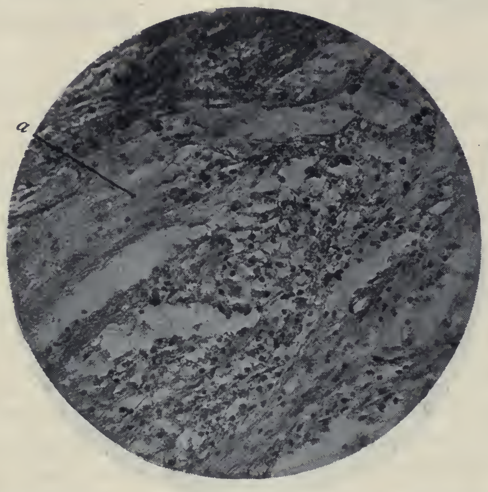

FIGURE 2.—Microscopic section; lung of guinea pig; low power (*x 70*), showing epithelial cells of alveolus (*a*) filled with fat. Fat globules stained with osmic acid.

I attribute the comparative failure in some of the earlier experiments to demonstrate vaporized medicaments in the alveoli to be due largely to the irritating substances that were used, namely: Iodine, iron salts and nitrate of silver. The animals, after a few minutes exposure to the vapor, had a hyper secretion of mucus which appeared in the nostrils and the mouth; when this had formed, the air entering the respiratory passages was obliged to bubble through a large amount of mucus. No doubt the material in the vaporized air was largely taken out in passing through the fluid. The success of the experiments seem to depend largely upon the persistency of the vapor. Also in avoiding too irritating a vapor. The vapor, as produced by my inhaler, is certainly very persistent. When the animal is taken out of the box, and the box closed some fifteen or twenty minutes, and then again opened, it will be found to be still filled with vapor,

Experiment 8.—Subject, male; age 40; Pole. Place, Cook County Hospital. Disease, secondary anæmia and septicæmia following suppurating tonsilitis. Vapor used, lavoline slightly flavored with oil of gaultheria; time of inhalation, twenty minutes. The respiratory movements were very complete with unusually deep forced inspiration and almost normal expiration. All of the accessory respiratory muscles were brought into play during the period of inhalation.

(NOTE.—Previous to the vaporization, the lungs of the patient were examined and found normal.)

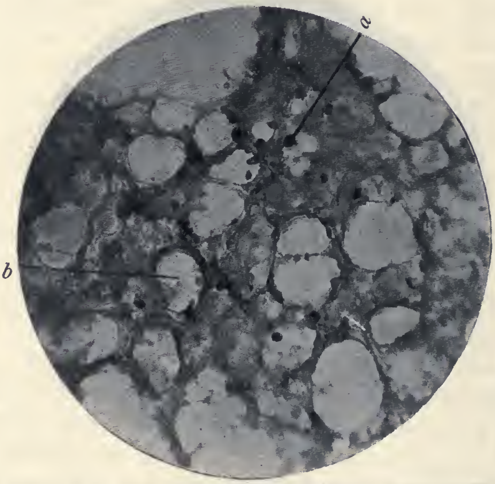

FIGURE 3.—Microscopic section; lung of guinea pig; (*x 100*), showing epithelial cells of alveolus filled with fat (*a*) and alveoli (*b*) without fat. Fat globules stained with osmic acid.

Soon after death a post-mortem was made. A small section was cut from the lower lobe of the left lung and placed upon a freezing microtome. When ready, sections were made and placed under a high objective. They revealed oil globules in the alveoli. Another section of the lung from the lower left lobe was put in osmic acid the following morning and allowed to remain seventy-two hours. Sections were then made by a freezing microtome and are the ones presented here for your inspection. They show well-stained oil globules within the alveoli. This I believe to be the first time a demonstration of a vaporized medicament, penetrating into the pulmonary alveoli of a human lung, has been made.

And now, reasoning upon the demonstration of oil globules in the pulmonary alveoli of the healthy lung, is it possible for any globules to reach localized diseased areas? I think it generally admitted that vaporized medicaments have an established therapeutic value in diffused catarrhs of the respiratory passages as far down as the larger bronchial tubes. The present extent to which vapors are used in the treatment of diseases of respiratory passages is sufficient evidence that they are of considerable local benefit in the treatment of affections of these passages, down to the smaller bronchial tubes. I have repeatedly seen good results in treatment of localized inflammations of the bronchial tract, by inhalation, as far as the second division of the bronchi. I have obtained results in that way that I have repeatedly failed to secure with internal medication. It is surprising how the respiratory ability can be increased by a little instruction and effort.

In treating cavities in the lungs that are accessible to the air current there is certainly a field for this kind of medication. There is no reason why a phthisical cavity accessible to the air current cannot be antiseptized in this way. There is no reason why an alveolar cavity should not be disinfected with vapor as readily as a bronchioatic cavity. If this can be done; considerable relief can be afforded patients. When it comes to treating diseases of the lung where there have been pathological changes in the lung tissues, it appears to be another question. It would seem as if we strike a limitation which is a serious one; namely, interference with natural respiratory processes on which the success of inhalation depends. In such a condition it would seem as if the bulk of inhalent would be diverted to those portions of the lung which are compensating for the diseased areas. In inspiratory tuberculosis, up to the time we have necrosis of lung tissues, there is a portion of the lung which we desire to reach by inhalation apparently effectually blocked by catarrhal products both within and without the alveolis. In tuberculosis, due to infection from the lymph or blood cells, we have a focus upon which is deposited extra-alveolar, and which is usually surrounded by more or less connective tissue growth; which, theoretically, would seem to offer a serious barrier to the passage of any vaporized medicament through the alveolus; even supposing, through osmotic action or any other process, such a passage was possible. Theoretically, it would seem that there exist, mechanically, limitations to the effect of any such treatment in tubercular diseases. However, since there have been so many theoretical objections made to the penetrability of vaporized medicaments in the respiratory passages, it is time to stop theorizing and see what can be demonstrated. It is probably true that inspired solid particles do not reach beyond the area of ciliated epithelium. But, in the form of vapor here produced, there is an intimate mixture of the molecules which largely favors passage beyond the area of ciliated epithelium. Diffusion is a molecular current rather than a gross current. The residual air in lungs is changed every seven inspirations. Hence in healthy lungs there appears no pathological objection to the penetrability of vaporized medicaments into the pulmonary alveoli.

We should remember that in animal experimentations the co-operation is wholly unintelligent and involuntary, whilst the use of vaporized medicaments among most patients is attended with a considerable degree of intelligence and voluntary assistance. The field alone of treating catarrhs of the lung, localized bronchitis, accessible cavities and the good that will accrue from the increased expansion of the lung, induced by such treatment, is of itself ample ground to encourage us in persisting in this line of medication.

An interesting point to ascertain would be what per cent of the vaporized medicaments used are retained within the pulmonary alveoli. Pascal demonstrated that by ordinary methods of inhalation about one-fifth of the vapor is retained and four-fifths is expelled. Hence, in the past, this line of treatment has not been of very much practical benefit on account of the small amount of vapor which has been contained within the bronchial tubes, and perhaps within the alveoli. I believe the apparatus exhibited is capable of causing the retention of a large proportion of the vaporized medicament. By placing patients under the influence for a considerable length of time we certainly do a great deal of good in the local treatment of catarrhal disorders of the respiratory passages.

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In conclusion, I desire to express my deep obligation to and appreciation of the many professional courtesies extended to me during the experiments, by the following gentlemen: Drs. Klebs and Preble for German translations; Drs. Humiston and Reedy, of the Cook County Hospital, for the practical work in connection with the use of the vapors there; to Professors Evans, Wesener and Gehrmann, of the Columbus Medical Laboratory, Chicago, for invaluable assistance and suggestions in the investigation of this subject.

CHRONICALLY DISEASED TONSILS.*

BY DR. H. W. WHITAKER, COLUMBUS, OHIO.

Late P. A. Surgeon U. S. Navy; Lecturer on Diseases of the Nose and Throat, Starling Medical College; Physician to the Union Missions Free Dispensary; Physician to the Children's Hospital, Woman's Hospital and the Convent of the Good Shepherd.

It may be truthfully said that, during all seasons of the year, cases of acute follicular tonsilitis exist in the Mississippi Valley. The severity and frequency of the attacks may vary, however, with the season of the year and the *individual* peculiarities and susceptibilities of the patient concerning this disease.

The clinical characteristics of acute attacks are well known and recognized by all without difficulty. The patients are treated during the four or five days of the attack; they are discharged, and we see no more of the disease, perhaps, until a return seizure. Not so, however, is it with the chronically diseased tonsils, of which we occasionally see a great deal and have with us for a long time.

It is deemed unnecessary here to attempt to enter into the mooted question of the function of the tonsils, and their significance, physiologically, in the animal economy, as they exist in a normally healthy condition. Only after they become diseased and assume a pathological condition will they be of interest to us here.

We are almost persuaded to believe that seriously diseased tonsils are frequently underestimated in importance and are left unattended, and they cannot be anything but a prejudicial factor, influencing the general health of the patient.

We observe that acute tonsilitis usually attacks children of a tender age—occurring even in infancy—and there is generally made a profound impression upon the constitution of the little sufferers, from which they rally more or less slowly. We also observe that one attack opens the way for the second, which occurs either immediately or remotely, and with increased severity, often involving the cervical lymphatics, which remain enlarged and are irritable. Having departed from a healthy condition, under exciting influences, it is easy for them to remain so through the age of childhood to maturity.

Patients who have repeated attacks of tonsilitis are subjected to a variety of annoyances and inconveniences in consequence. Comparatively unimportant they may seem, but, nevertheless, they possess a detrimental influence in the case by preventing a free and easy respiratory action, and cause mouth breathing, snoring during sleep and night terrors—dreams—in children, and also assist the formation of adenoids in the vault of the pharynx. In these cases the blood is not freely oxygenated and anæmia, soon or subsequently, makes its appearance. There is also associated with these conditions more or less general catarrh, with irritable and spongy mucous surfaces.

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*Read before the Mississippi Valley Medical Association, Louisville, Ky., October 5th, 1897.

Chronically diseased tonsils may be classified as follows, viz.:

Hypertrophic }
Hyperplastic } Enlargements.
Lingual }
Tonsilitis.
Atrophy.

The first two varieties exist under vastly different circumstances. The hypertrophic is found oftenest in childhood and consequently the more frequent of the two. The hyperplastic occurs in adult life preferably. In the one there is an hypertrophy of the normal histological elements composing the gland. In the other—the hyperplastic—there is a predominance of connective tissue, which may, indeed, almost entirely change the character of the gland.

In the former, the color is darker, its consistency softer and seemingly there is an abundance of glandular tissue, and usually presents a ragged or uneven surface. As in health, the hypertrophic tonsil presents the orifices of the crypts, which, upon inspection, or probing, are found enlarged, and often contain masses of degenerated epithelium scales and mucous. The reddening of the mucous membrane covering the tonsil varies much in the same individual, and largely depends on the length of time which has elapsed since the last acute attack. The mucous surface dips into and lines the cavity of the crypts. The sub-mucous layer is usually thickened by a deposit of connective tissue fibre which surrounds the lymphatic bodies, which, in turn, are often increased in size.

In hyperplastic tonsils there is also observed an increase in the number, as well as in the size, of the lymphatic bodies. But what is more noticeable is the increase in the development of connective tissue bands which occasionally compress or obliterate the crypts of the tonsils. In the same manner, blood vessels are constricted and the normal blood supply is reduced, which is sufficient to account for the difference in color, which is paler than in the hypertrophic variety.

The faucial and pharyngeal tonsils having the same normal histological elements, it is but reasonable to suppose that whatever exciting causes arouse glandular activity or produce irritation in the one is also liable to set up the same activity in the other. Consequently, we often find that adenoids exist in children, who, for some time, have had derangement of the faucial tonsils.

In the variety of lingual hypertrophies much the same conditions obtain, except that the lymphatic follicles are distributed over a broad base instead of being bunched together as they are in the other forms. Lingual enlargements are usually preceded by a history of faucial tonsilitis existing in earlier life. Of themselves they are the least important and often exist without causing the patient anything more than an annoyance. Following repeated attacks of congestion, there is hyperplastic deposit about the individual mucous glands as elsewhere. These glands can be detected, as they stand above the surface over the dorsum of the tongue, from the pappillæ circumvallatæ, to the dorsum of the tongue. They are recognized by the opening of the duct, into which passes the mucous membrane and lines the bulbous cavity of the gland. As elsewhere, in the submucous layers, are placed the lymph bodies enclosed in a fibrinous mesh, enveloped by a fibrous capsule. The bulbous expansion of each mucous gland is surrounded by lymph tissue which functionates as a separate secreting gland. The abundance of lymph tissue here renders them susceptible to enlargements which appear secondary to the faucial disturbances.

Tonsilitis.—In the glandular structure of the tonsils, the enlarged crypts having small openings favor the retention of catarrhal exudates which undergo a degenerative process, forming at first a cheesy mass, but subsequently change through various stages until a calcareous condition has been attained.

In various conditions of diseased tonsils, crystals of lime are occasionally found existing in the body of the gland. They are also found in tonsils externally possessing a healthy appearance, and give no inconvenience. This condition is considered by some as being of a gouty nature. In size the concretions vary from a crystal to the weight of several grammes. Their composition is made up chiefly of phosphate and carbonate of calcium, with a small quantity of magnesium.

Tonsilar Atrophy.—We occasionally encounter patients who, from birth, have imperfectly developed faucial tonsils, and they generally escape all forms of congestion and inflammation. In other instances, after one or repeated attacks of acute tonsilitis, the glands become hard and fibrous in consistency and gradually decrease in size, without annoyance to the patient. The atrophy is often unilateral, but does occur bilaterally. In outline these tonsils are usually smooth; are harder than normal and are pale in color. Occasionally one or more crypts become filled with caseous deposit, which accumulates in size, with distension; other lymph follicles are compressed and often absorbed so that not unfrequently the entire body of the tonsil is filled with the degenerating mass, and when removed, the capsule of the tonsil collapses.

Either by fibrino-plastic deposit about the nutritive blood-vessel, or by the pressure of the accumulating mass within, the quantity of blood is reduced, and glandular atrophy occurs as a result; or the atrophy occurs through a neurosis.

To turn out the retained cheesy mass, and irritate the sack with the hope of occluding it, is the only treatment indicated.

The causes which induce chronic tonsilitis are predisposing and exciting. Under the former, hereditary influence seems to stand forth prominently and demands recognition. In a greater number of cases it will be found that one or both parents have been victims to attacks of acute tonsilitis. Again, family habit or susceptibility to acute tonsilitis is a thing of record in the observation of every physician. In some families attacks are common, while they never occur in others. The existence of rheumatism and tonsilitis in the same individual has been observed and noted for a long time. Involving, as it does, the existence of a diathetic habit, this theory offers a reasonable explanation, which is worthy of consideration, in investigating the hereditary connection of the disease, as a predisposing factor.

Among other agencies which act as *exciting* causes of the formation of this trouble, we may mention first diphtheria, and scarlet fever second. It may be said these diseases almost always leave behind them glandular enlargements about the cervical region. In the same category, but occupying a less prominent position, may be placed measles and whooping cough. As a result of these diseases, a susceptible lymphatic irritability often remains for a long time.

The "lymphatic diathesis" has an immeasurably far-reaching influence upon the health, growth and development of a child. The vaso-pharyngeal mucous membrane, so abundantly supplied with blood and glandular elements, seems ever ready to respond not only to a variety of infectious agents through the lymph bodies and glands, but also responds through the nervous system to varying conditions of sudden changes from heat to cold. Through the vaso-motors, functional activity in the lymph follicles is easily increased, and hyperplastic deposits are made about the mucous glands, as well as around the lymph follicles during attacks of acute tonsilitis, and the neighboring lymphatic cervical glands are also aroused in the same process. But proliferation and degeneration is favored by the repetition of congestion and depletion; by the vitiated atmosphere of over-heated, insufficiently ventilated apartments during the winter months; by over-crowding in working-rooms in large cities; by being under-fed and poorly clad; by exposure to atmospheric conditions without adequate means of protection.

Symptoms.—There is usually present a history of hereditary tendency to the disease, and oftentimes there have been repeated attacks of acute tonsilitis during earlier life, with sequent enlargement of the cervical lymphatics, which, often, are tender. There is susceptibility to sudden changes of temperature. During winter months frequent attacks of coryza or rhinitis occur from which, in due time, a general head catarrh is established. Vaso-motor disturbances are of frequent occurrence.

In the majority of cases there is present post-nasal catarrh, and a mucous discharge takes place, either through the anterior nares, which, at times, impedes nasal respiration, or posteriorly into the pharynx. Being repeatedly congested and bathed in mucous, the pharyngeal tonsil becomes involved with adenoid formation, which assumes a degree of activity depending upon a variety of conditions which usually are not wanting. Such a combination tends to materially aggravate the course of chronically diseased tonsils. About this time, when adenoids are well under way, mouth breathing begins and with it a noisy, unpleasant respiration, which becomes a snore during sleep. Children become listless and hear badly; they become anæmic and grow lean and lank. Discomfort is complained of only when the glands become sufficiently large to interfere with swallowing, or when the crypts become filled with catarrhal exudative masses. The lower jaw droops, the mouth remains open, the eyes are dull and often congested, the facial expression is heavy or stupid. The respirations are shallow and imperfectly executed; the chest expansion is restricted and the blood is imperfectly oxygenated, which further tends to aggravate the tendency to anæmia.

The voice is flat and nasal in character. Cough is a variable symptom. Inspection reveals the enlarged tonsils, often ragged in outline, red in appearance and granular in the hypertrophic variety. The mucous glands, occupying the pharynx, are involved and enlarged, so that the throat presents an abnormal appearance. The pillars of the fauces are frequently granular and congested, and the capsule of the tonsil may be found adherent, a condition it is well to have determined before excision is attempted.

In the hyperplastic enlargements the tonsils are found to be symmetrically enlarged, usually quite round, hard and pale in color. In the lingual hypertrophy, few, if any, characteristic symptoms are present. Histories of previous tonsilitis are found. Faulty digestion, associated with hepatic inactivity and constipation, is present in the majority of instances. A slight, tickling cough is sometimes complained of, as well as the feeling that a foreign substance has been lodged in the throat. Retained masses are found in these glands, and they have occurred more frequently in women than in men, in the writer's experience.

Prognosis.—At about the age of thirty years the disease sometimes is dispelled by a spontaneous recovery; in children, at the age of puberty. In the meantime, however, the patient's condition may become so unsatisfactory, and much irreparable harm be done, if diseased tonsils are permitted to remain; it is desirable to remove them.

Usually the most satisfactory results follow excision or cauterization, which is advisable, whenever the tonsils become subject to too frequent attacks of acute inflammation, or the general health begins to be impaired.

Simple, non-pathological enlargement of the tonsils, without glandular involvement, does not demand surgical treatment, unless, by their size, they become objectionable.

As to the results of excision, the patient, friends and acquaintances—they often have to be consulted—confidently may be assured that the voice will be vastly improved, both in tone and quality; that no deleterious sexual changes or perversity will ensue.

Treatment.—We have to consider the hygienic and prophylactic, local, constitutional and surgical. The activity of an acute attack having passed, the attending physician usually examines the throat, and, seeing that the follicles are freed from the deposit in the crypts, and the patient declaring that he "feels all right," is discharged as cured, without further treatment. After such an attack, the tonsils are enlarged, soft and hyperæmic, and, without the local application of astringents regularly applied, until they return to their normal size, the tonsils remain in a condition favorable for an early return attack.

Victims of tonsilitis, acute and chronic, should be warned against exposure to wet, cold atmosphere after physical exercise or exertion, and especial attention should be exercised in keeping the feet dry during sloppy, wet winter weather, by the use of rubber overshoes. Nothing in my experience is so provocative of acute tonsilitis as to permit the feet to remain and become chilled in wet boots and stockings. This fact was forcibly impressed upon my memory when serving as surgeon aboard one of the United States training ships for apprentices, while at anchor in the lower harbor of New York Bay. It was during the month of April. The ship, having on board about one hundred and fifty boys, varying in age from fourteen to twenty years, had wintered in the West Indies where perfect health had been enjoyed. The morning after anchoring, the decks were holystoned and scrubbed, the boys doing the work. The time occupied was about an hour and a half, during which period many were barefooted, while others wore rubber boots, and all were seemingly well. By the time of the next morning sick call, about one-third of the number of the boys were ill with acute follicular tonsilitis in varying degrees of severity.

Flannel should be worn next to the skin. A morning bath in cold water should be indulged in to the waist, if not all over, and followed by a brisk rub. The neck, especially the fore part, and chest should be douched liberally. The habit of wearing fur boas—so popular with women—neck mufflers and such neck wraps should be discouraged. They keep the neck too warm and make it susceptible to change of temperature. When out in the open air the mouth should be kept closed and the normal habit of nose-breathing encouraged as much as possible. Overheated, dry apartments should be avoided, while the sleeping room must be adequately ventilated.

Local Treatment.—The majority of children indifferently bear with, or do not tolerate, local treatment. In older persons the use of such astringents as the glycerite of tannic acid, ferric alum or chromic acid, properly diluted, gives satisfactory results. Crystals of ammonia alum inserted into crypts, and there permitted to dissolve, act energetically to prevent the accumulation so frequently encountered.

Constitutional Medication is imperative in anæmic conditions accompanying lymphatic glandular enlargements. For this purpose, iron and iodine, combined in some form, is desirable. As a resolvent tonic, the syrup of iodide of iron enjoys an extensive reputation, applicable to such cases. But, candidly speaking, it must be admitted to be unsatisfactory in many respects. The syrup of hydriodic acid, in full doses, is always palatable and acceptable to children and produces results as satisfactory as could be expected. The various salts of mercury should not be forgotten and with an especial advantage they may be combined and administered with iron. Cod liver oil and the bitter tonics are worthy and demand a place on the list.

The digestive functions should be watched carefully, kept active and in a healthy condition. For this purpose it is well to restrict the use of sweets, pastry and rich salads. The normal secretions should be looked after and maintained.

Surgical Treatment.—In repeated instances, the diseased crypts are constantly filling with the masses of a cheesy consistency which, at times, becomes offensive, the tonsils not even being enlarged. The opening of the crypt should be enlarged, the plug turned out, and the cautery point applied at a white heat to each follicle. When the cautery is not at hand, a fifty per cent. solution of trichloracetic acid, carried by means of a cotton plug, wound over the end of a cotton carrier, may be employed to destroy the lining of the sack. The fluid nature, however, renders it necessary that care be used in making applications about the throat. To avoid pain, a weak solution of cocaine should be previously applied to each spot. The inflammation resulting from a thorough application of this kind, occludes the follicles so that future return is impossible.

Tonsilliths are treated in a similar manner and recovery is complete.

In hyperplastic enlargements excision is the only feasible and reliable method worthy of consideration. It is deemed unnecessary here to detail the methods which are familiar to all, for their removal.

In hypertrophic tonsilitis excision is also desirable whenever it is possible; but occasionally they cannot be removed. In such instances, it then becomes necessary to destroy the offending enlargements by means of the galvano-cautery point. For this purpose the platinum-covered porcelain electrode has been designed and is necessary for the accomplishment of satisfactory results. After swabbing the parts with cocaine solution. one, two or three applications may be made at each sitting and repeated at an interval of every two weeks.

Lingual hypertrophies are best treated by incision or curretting, followed by the galvano-cautery to each enlargement.

Especial attention should be exercised in correcting any mal-digestion present and in overcoming constipation. For this purpose the effect of sodium phosphate, blue pill and podophyllin is superior to almost all others.

The presence of adenoids in children, having chronically enlarged tonsils, should be anticipated, and, whenever detected, removed; for no treatment will prove satisfactory so long as any exist. Permitted to remain they immediately disarrange the general health and comfort, as well as hinder the growth and development of the child. Thorough treatment is always advisable.

No. 72 South Grant Avenue.

ACUTE INFECTIVE MENINGITIS BEGINNING NINE HOURS AFTER INCEPTION OF ACUTE SUPPURATIVE INFLAMMATION OF THE TYMPANUM, DIFFUSE MENINGITIS IN THIRTY-SIX HOURS—DEATH.

BY F. B. EATON, M.D., SAN JOSE, CAL.

The following case is believed to be not only remarkable as regards the early appearance, explosive violence and speedily fatal termination of an acute tympanic suppuration, but instructive as regards questions of the bacteriology and the probability or not that death could have been prevented by very early surgical interference according to the authoritative otological teaching of to-day:

Mrs. S. R., æt. 57, for years had had headaches of gastric origin. Never any ear trouble; no tubercular condition, and was in better health than for years, when, about May 4, 1897, she was attacked with a mild form of influenza prevalent in this city at the time, with cough and some bronchitis. Her son-in-law, Dr. C. A. Wayland, a careful and competent physician, attended her, and she was kept in bed until the 9th, when she had so improved as to be allowed to get up, but not to go out of doors until the 12th, being cautioned then against any imprudence.

On the afternoon of Thursday, May 13th, she occupied herself watering her garden, and that evening complained of a "stuffed up" nose. At bedtime, 7 p. m., a very severe earache began on the right side, and an intelligent trained nurse sat up with her all night, irrigating the ear with hot water every two hours with some alleviation of the intense pain. At 4 a. m. the following (Friday) morning the patient remarked that the pain (in the ear) was less, but that "As soon as it got better I began to have an awful pain in the back of the head." This pain, which later became an agonizing general headache, never left her, notwithstanding that at 10 a. m. of the same day (Friday) the membrana ruptured and a purulent discharge appeared with considerable relief of the otalgia. Temperature 11 a. m., 101°. At noon of this day, Dr. Gordon, a specialist, was called in, examined the ear and found a moderate discharge tinged with blood. Temperature 5 p. m., 103°; 11 p. m., same. According to the nurse's record, at 3 a. m. Saturday, the discharge ceased, and 9 a. m. the patient was so delirious as to recognize no one. Temperature 8 a. m., 100°; 3 p. m., 102°. At this time (3 p. m.) I was called in consultation with the hope that something might be done surgically to re-establish the discharge, or to check the course of the malady. The patient was now wildly delirious. Inspection revealed free perforation of the membrana, having blood-tinged margins, and but a bare show of pus.

As the case seemed hopeless to all the consultants, nothing was done, save to make a deep incision into the cellular tissue of the attic. There was no sign of mastoid involvement, and diffuse infective meningitis was diagnosed. Later in the day coma supervened; the temperature rose to 104°; pupils enlarged; there was slight paresis of the right arm and leg with proptosis of the right eye, and on Sunday (16th) at 4:30 p. m. death ensued without interruption of the coma.

Resume and Remarks.—An elderly lady, recuperated from a mild catarrh of the respiratory tract, is suddenly attacked with severe acute suppurative inflammation of right tympana. Nine hours thereafter severe and unceasing pain indicative of meningitis. Perforation of membrana in fifteen hours, and temperature of 101°, steadily increasing to 103° and 104°, with cessation of discharge in thirty-two hours, and in thirty-six hours all the symptoms of diffuse meningitis. Finally symptoms of basilar extra-dural abscess. No symptom of mastoid involvement at any time.

Infective intra-cranial disease, as a sequel of *acute* tympanic suppuration in adults, is relatively infrequent, comprising about 5 per cent. of any large series of unselected cases of the disease. Macewen (*Lane Lecture*, *1896*,) states that "When you have an acute process occurring in the middle ear, you comparatively seldom have any invasion of the brain. * * * Infective processes in the *internal* ear do not, in my experience, lead to abscess, but to infective meningitis."

The case above reported is believed to be extremely rare; at least the writer has not found, in a considerable mass of literature at his command, any reported case in which general diffuse infective meningitis of aural origin in an adult was established with coma in forty-eight hours after the inception of the pain—*i. e.*, of acute otitis. That rapid invasion of the tympanum by the diplococcus pneumoniæ, either alone or with other pyogenic bacteria, occurred, is evident from the history, for Netter (1889), in twenty-five cases of purulent meningitis, examined thirteen cases microscopically. Four of the cases were complicated with purulent otitis, six with pneumonia, and three with ulcerative endocarditis. The pneumococcus was found in sixteen of the twenty-five cases.*

In the case here reported, unfortunately, no microscopic examination of the pus was made. The onset of diffuse meningitis was so rapid, and so astonishingly outside the experience of the physicians in attendance, that it is more than doubtful whether even a deep paracentesis into the posterior portion of the attic, if done as early as within an hour after the otalgia began, would have saved the patient; for the infection would seem to have taken a very short path through the vessels of the tympanic roof, or perforated the latter, to have established meningitis so promptly. Still, this appears to the writer a timely occasion to refer to the means at the disposal of many general practitioners, whereby they can, not infrequently, abort an acute suppurative process of the tympanum, and whereby they can determine intra-cranial involvement at its inception.

No author has more clearly set forth the principles and indication for surgical treatment than Dench†, who remarks: "The first stages of the process (Acute Purulent Otitis Media) consist in a hyperæmia of the affected parts. The folds in the vault of the tympanum become engorged with blood, increase in volume, and often fill the space (attic) completely, shutting off all communication with the atrium; * * * local necrosis takes place, the tissue breaking down with formation of pus. * * *‡ If local depletion does not produce immediate relief the parts should be thoroughly incised. * * * The incision should lie above the short process of the malleus and posterior to it. The knife is entered just behind the processus brevis and carried upward and inward parallel to the neck of the malleus until it has pierced the cellular tissue within the tympanic vault and impinges upon the bony wall. The knife is then swept backward to the periphery of the membrane, the deep tissues being divided throughout the entire extent of the incision. If the long process of the incus is encountered, as may happen if it lies high up in the cavity, or if the incision is carried a little too low, care must be taken not to displace it, the knife being allowed to glide over it, and afterward being pushed inward to the original depth to complete the incision. It is well, also, on reaching the periphery, to extend the section directly outward along the supero-posterior wall for a distance of a quarter of an inch, dividing all the soft parts down to the bone. It is to be distinctly understood that we do not expect to liberate pus by this procedure, but to prevent its formation. Consequently the greatest care must be taken that the field of operation is in an aseptic condition * * * as all instruments and the fluids used subsequently. * * * This measure, when performed sufficiently early, may completely abort the attack.

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*Sternberg. Manual of Bacteriology, p. 300.

†Diseases of the Ear, 1894, p. 337.

‡Ibid, p. 334.

* * * "When seen at a later period, and when the parts are distinctly bulging, it is wise to vary the procedure to the extent of beginning the incision over the area of the greatest bulging, remembering that our object is to incise the vascular tissues located in the superior portion of the cavity, and to liberate any contained fluid as well. Here, instead of carrying the incision outward upon the canal wall, the knife may be plunged directly into the most prominent portion of the tumor, carried deeply into the tympanic vault, and the parts divided directly upward as far as the superior margin of the meatus; the peripheral attachment of the membrane posteriorly should then be followed downward for a short distance, thus forming a triangular flap, to favor free drainage."

The writer has quoted freely, since his own experience with the author's methods has accomplished all he has claimed, being founded on sound pathology, and also because he has not found the general practitioner, who most often witnesses the disease in its incipiency, acquainted with them, nor some otologists, for that matter. As to the early signs of intra-cranial involvement, as Knapp puts it:* "The warning signal should be given as soon as *Meningeal Irritation* is noticed. * * * The chief symptoms of meningeal irritation are: *Headache; occasional nausea, vomiting, and dizziness; moderate increase of temperature; some acceleration of the pulse.* The two latter symptoms, though mostly present, seem to depend more on the virulence of the primary disease, the otitis, than on the meningeal involvement."

The same author has, in his usual lucid manner, stated that:† "It is difficult to recognize when meningeal irritation passes over into Meningeal Inflammation. As soon as in the course of otitis media, with its manifold symptoms, the *headache becomes persistent;* is followed by *attacks of nausea and vomiting, dizziness, drowsiness, delirium, or stupor; at first acceleration, later retardation of pulse and rise of temperature, dry tongue, thirst, and constipation,* we may be sure that meningitis has begun or is fully developed; the lethal issue is commonly preceded by *spasms in the extremities, and coma.*"

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*Archives of Otology, vol. xxii., p. 143 et seq.

†Ibid, p. 152.

A NEW NASAL SPECULUM.

DEVISED JOINTLY BY J. HOMER COULTER, A.M., M.D., PH.D.

Professor of Diseases of the Nose and Throat, Chicago Clinical School; Professor of Rhinology and Laryngology, Harvey Medical College.

AND EDWIN PYNCHON, M.D.

Professor of Rhino-Laryngology and Otology, Chicago Eye, Ear, Nose and Throat College; Senior Assistant Aural Surgeon, Illinois Charitable Eye and Ear Infirmary, Chicago.

An efficient nasal speculum is pre-eminently the desideratum in rhinological practice. We have been experimenting with the object of producing a speculum which would be equally valuable for either examinations or operations. Our experience has been more favorable with hinged lever specula than with any of the self-retaining or smaller, slighter and more springy patterns of specula which are so frequently met with.

To simply stretch the meatus is not the only requisite in order to obtain a good view of the nasal passage. The speculum employed must serve us in other ways in order that it may prove to be the acme of success. It should be of a size large enough to be easily grasped by the hand of the surgeon, and will thus serve as a convenient handle whereby the nose may be guided as desired, or held fixed in one position with a reasonable degree of firmness. Having one hand thus engaged is no detriment, as in most intra-nasal operations only one hand is required, while the other is best employed in steadying the field of vision by a firm though gentle traction with the speculum. In this way there will be but little requirement for a head-rest, even in a sawing operation, particularly if the saw is set to cut on the pull. In using burrs and trephines with the electric engine, no head-rest is required.

The standard styles of nasal specula of the variety under consideration were found to possess certain common characteristics which we have in many instances been compelled to regard as faults.

1. The blades are placed at about right angles to the handles, therefore, when being used, the handle falls too close to the patient's chin. On the other hand, if the handle be held forward and away from the chin, the blades point to the floor of the nasal passage.

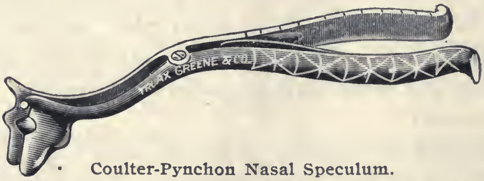
2. In opening the speculum, the upper edges of the blades travel farther, or open wider, than do the lower edges. To, in a measure, overcome this defect, some of these specula are hinged nearly half

way down the handle. As the nasal passage and meatus are wider below than above, it would seem wiser to have the speculum made to conform to the anatomical requirements.

3. The blades being generally wedge-shaped, display a frequent tendency to slip out while being used. In cases wherein the meatus is large, the blades slip inside the passage.

4. The springs met with are generally too strong. This, in combination with the location of the hinge pivot nearly half way down the handle, giving nearly as great a degree of motion to the blades as is given to the handles when being compressed, causes increased difficulty in gently expanding the blades.

We here illustrate a nasal speculum, the result of considerable thought and experiment, made with the object of avoiding the defects previously alluded to.



Coulter-Pynchon Nasal Speculum.

Instead of being at right angles to the handle, the blades are placed at an angle of about 70 degrees thereto. When viewed from the side, the handle is found to be slightly serpentine. The first downward bend gives increased room during instrumentation, and, by pressing against the upper lip when in use, tends to prevent the blades being too far inserted. To further assist in this latter aim, the upper, outer corner of each blade terminates in a horn, which horns so engage the meatus as to prevent the before-mentioned and undesirable "slipping into the nose."

When the blades are fully closed, while the upper edges touch each other, the lower edges are some distance apart, giving a space in vertical cross-section the shape of an isosceles triangle. The advantage of this arrangement is, that while as easily introduced as those specula, the blades of which approximate both above and below, it insures at all stages of expansion a greater stretch of the lower than of the upper part of the meatus. The handles, between the hinge and the blades, are somewhat apart even when the blades are fully closed; therefore, when the blades are separated, while the instrument is in use, the space between the handles is materially increased, so as to give the greatest amount of room during the employment of saws, drills, etc., while operating.

The most characteristic feature of this speculum is the "hump" on the outer, upper edge of both blades, in combination with the hollow or depression between the humps and the horn-like terminals. This combination gives to the instrument its retaining feature, and prevents that frequent "slipping out" which has been previously noted, and thus permits of gently persuading the patient to remain stationary.

In the introduction of this speculum the tip and "humps" should first be entered within the meatus, while the blades are closed, and the handle held well out from the chin. After this, drop the handle down toward the chin, *holding it parallel with the median line*, and then expand the blades. The upper margin of the meatus will fit in the hollow or depression between the humps and horns. In use it will be found painless and, in fact, comfortable; certainly a feature of great merit. The humps also increase the expansion just inside of the upper margin of the meatus and thus facilitate a better view of the attic of the passage as the nose is pulled forward while the tip is being elevated.

Beyond the humps the blades rapidly diminish in size, and at the terminus are so delicate that the instrument serves admirably for examination of the smallest noses met with, or in those cases where the meatus is chapped or inflamed. The length of the blades is somewhat less than is that of the blades usually met with. To compensate for this shortcoming, the blade at the proximal end is made slightly wider from top to bottom than is usual. By these modifications, when the speculum is fully inserted, the expanding outer blade never presses against the inferior turbinal, and the maximum stretch of the meatus is obtained.

As this instrument does not aim to belong to the class of self-retaining devices, it is not provided with any set-screw to prevent closure of the blades. The spring is made particularly weak, and the sliding end rests in a groove to insure its remaining in place. The hinge joint is so made that tightening the screw-pin will not cause the joint to bind. A knob is placed at the end of either handle which allows the instrument to be more firmly held in the hand. The handles are somewhat longer than usual which gives increased convenience in use and is of particular value if the patient is to assist by holding the speculum.

This instrument has not been made more than ordinarily "asceptible," inasmuch as nasal surgery of the kind in which such a speculum will be used requires only simple, decent cleanliness. A thorough washing in boiling water, followed by drying and heating over an argand gas burner, is all-sufficient.

This speculum has been neatly constructed for us by Messrs. Truax, Greene & Co., of this city.

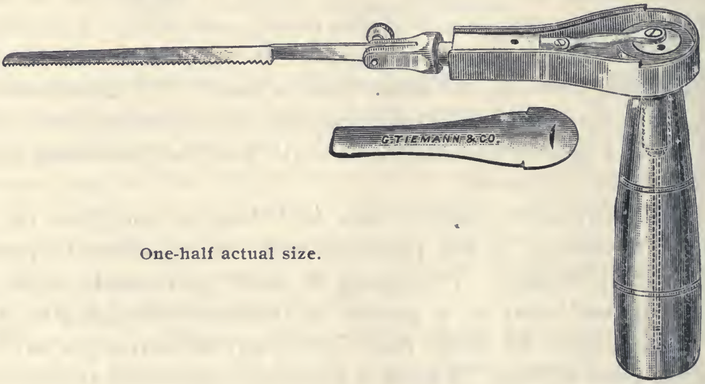
Columbus Memorial Building.

BLACK'S ELECTRO-MOTOR NASAL SAW AS IMPROVED.

BY G. MELVILLE BLACK, M.D., DENVER.

Professor of Ophthalmology and Otology in the Gross Medical College. Formerly Professor of Laryngology and Rhinology in the Medical Department of the State University.

The first report of my electro-motor nasal saw appeared in this journal in July, 1896. Since that time I have so perfected the instrument that I desire to once more call the attention of the profession to it. As the saw is now made, it is an instrument that seems to be perfect in all its parts. The former saw was faulty in that there was some lost motion in the running gear that caused it to be somewhat jerky in its movements and made an unnecessary amount of noise. After several modifications this defect has been entirely overcome.



One-half actual size.

The saw, as perfected, runs with scarcely any noise or vibration. The length of stroke can be changed from ⅛ to ¼ inch, if desired, by using the other screw hole in the eccentric wheel. Lost motion that could occur from wear in any part can be taken up. All the bearings are made of case-hardened steel. The saw-blade is the same pattern as before, only the teeth are twenty to the inch instead of thirty, as in the former blade. The teeth are made very long and sharp. They have no inclination toward the front end, or base of the blade, but set straight out from the edge of it. The instrument is so simple in its construction that it cannot get out of order, is so strongly made that it cannot break, and is not expensive. There are no springs or levers for stopping or starting the saw, which fact is an advantage, as they tend to get out of order easily and make the instrument more complicated and naturally more expensive.

The advantages of the motor-nasal saw over the hand saw are that with this saw, owing to its very short stroke, a spur can be removed from the most inaccessible portions of the nasal cavity, whereas with the hand saw, with which at least an inch stroke is required, it would be impossible to get a hold on the spur or to saw through it. With the hand saw a spur with a rounding edge is hard to get a start upon because the saw will slip off. With my saw a start can be made on any spur, no matter how rounding it may be. With the hand saw there is danger of pushing the end of the saw through a thin septum which projects behind the spur. With the motor saw there is no danger of this, as the point of the saw can be kept well in front of this portion of the septum or passed beyond it. It is also easier to guide and keep in position than the hand saw. Lastly, with the motor saw much less time is consumed during the operation, thereby making it easier for both patient and operator.

I desire to thank Messrs. George Tieman & Co. for the interest they have taken in this instrument and the cheerful manner with which they have accepted my suggestions and the accuracy with which they have carried them out.

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EDITORIAL.

AUTHORS AND THE JOURNALS.

The rights and relations of authors and the journals are subjects not only of great interest, but they are of paramount importance. The position of an editor of a journal is not unattended with perplexing questions to solve and difficult tasks to perform. He stands between his contributors, reviewers and readers as a sort of literary clearing house, and he must guarantee fairness and honesty to all.

In the matter of articles contributed for publication the editor must consider first the interests of his subscribers. It is a delicate and disagreeable task to decline a paper volunteered to one's columns, no matter upon what ground. The contributor is quite certain to place his own construction on the reason given and think it in the nature of a pretext. If it is his first effort he may be discouraged, notwithstanding his consciousness of ability; if he is not a "first offender" he may be angered. But the editor is the best judge of his patrons' wants.

The right of an editor to alter the manuscript of a contributor is often questioned. There are inalienable rights attaching to authorship. Manifestly, the editor has no right to change the meaning of an author. For want of space he may abridge matter, with an author's consent, omitting that which may not be pertinent, or necessary to the comprehension of the writer's thoughts; but he has no right to alter an author's words so as to change his meaning. Otherwise the language becomes that of another, and is no longer an exponent of the author's mind.

On the other hand, an editor cannot be expected to mar the character of his journal by the appearance of anything which will prove discreditable to it. He must be a judge not only of the soundness of the material offered for publication, but he must see that the grammar and the rhetoric do credit to a journal of literary merit. Unfortunately, many physicians of high medical attainments have neglected the acquisition of a literary education as a preliminary to their medical training. Their experience is of inestimable value to their contemporaries, and it would be unjust to all concerned to discourage the publication of their observations. The information which they can impart is paramount; the language is secondary to the thought. But there are ways in which this class of contributors may acquit themselves with a maximum of credit, and embellish medical literature. Accessible to them are trained persons, teachers in our schools, etc., who would gladly earn a few extra dollars by straightening out the tangled threads of grammar and polishing off the warts of rhetoric. There are those who are wise enough to avail themselves of such helps to remove the blemishes that disfigure their excellent work.

But there are editors who accept articles, change their punctuation, wording and construction of sentences, and omit whole sentences and paragraphs that are pertinent, and material to a complete understanding of the subject in hand, and all this without the consent or knowledge of their contributors. The astonishment and vexation of authors on seeing their productions appear in such mutilated forms can scarcely be expressed in elegant diction.

Proof of an article is an author's due; but its prompt correction, with as few material changes as possible, and its early return are obligatory on the writer. Common practice makes common law, and these rules are commonly observed among authors, editors and publishers. Moreover, when a manuscript is placed for publication it should be in the final form in which it is to appear, without material alterations, for when it is once in type it cannot be essentially changed in wording without additional cost to the publisher.

The relations of authors of books to the medical press are of an interesting kind. Many medical books are largely the result of a crystalization of journal contributions in a permanent form of literature. Amplification and condensation play an important part, but the proposition as stated is substantially true. Authors and publishers present complimentary copies of their new books to the journals, with the expectation that these journals will give their readers an account of their contents and a fair estimate of the merit of the books.

Let us note in what manner the various journals discharge their duties to their readers and the authors. A very few print the title pages of these books, with no word of acknowledgement or comment. A few others ''acknowledge with thanks the receipt of these books'' (by the score), with no comment. Quite a number add a few words of the ordinary, stereötyped style, giving the book a good natured push toward prosperity. A glance over the binding, the illustrations and the general make-up, a few dashes of the pencil, and the book adds another to the plethoric and pretty library of the editor.

By far the largest class shows that the journals make an honest effort to acquaint their readers with the real character of new publications, so that no mistakes may be made by prospective purchasers. Even in this class it is quite evident that the editors, who have not the time to examine extensively and review all the works that come to their hands, still desire to retain the books on their own shelves. They ascertain first from the preface what each author's purpose is, and second, the manner in which he marshals his material to accomplish this purpose. They take a general account of the most prominent features, the methods of treating subjects, the presentation of those matters that happen to appeal to them with special interest, the aptness and execution of the illustrations, and the apparent experience and attainments of the author. The latter two points are estimated with facility by the experienced. These matters are considered, with the addition of a sentence or two relative to the mechanical workmanship of the publishers, and the review is done. This type of editors, by far the predominating one, is of the large-hearted kind, who are actuated by a desire both to aid their readers in selecting their books and to show their appreciation of the labors of their confreres.

There is another class, the most valuable of all. To this belongs the journal that places the books with reviewers representing all the specialties, distributing according to subjects. Each reviewer is, presumably, an experienced and scholarly gentleman, who gives a well-studied, unbiased, well-balanced review of every book presented to him. These reviewers are a great help to the profession as a whole. If the book is worthless or harmful, the readers are spared the expense, waste of time and mistakes attendant upon its purchase. If the book is one of merit, both the author and reader are benefited, and incidentally the publisher, for the interests of all are conserved. If the author has fallen into errors they are kindly pointed out in all sincerity, and he takes advantage of these corrections to eliminate faults from subsequent editions. These reviewers call attention to new theories and methods of treatment, and in many instances add briefly the results of a ripe experience, enriching all who read. Such reviewers, sincere, impersonal and accomplished, are beacon lights to authors and readers alike.

But what shall we say of such practices as the following? There recently appeared a work on bacteriology by a proficient devotee of the laboratory. A reviewer culled a few sentences from this book, showing slips in construction and phraseology. These were displayed conspicuously, ridiculed, and an impression conveyed that the whole book consisted of a mass of unintelligible verbiage. There was not an honest hint that any information could be obtained from it. Another instance: A doctor visits the agent of a new book and makes a request for the loan of a copy, stating that he is very much interested in the work. He writes a so-called review, consisting of hypercriticism, unfair suggestions and patent falsehoods, insinuations that its author, to whom the young tyro-reviewer imagines himself a rival, is incompetent, notwithstanding his work extending over a respectable fraction of a century. This type of reviewer decides that there is nothing in this book that appeals to the reason, nothing that should escape his condemnation, except solely, the mechanical work of the publisher. This ''expert'' offers his ''review'' to a journal, the editorial staff of which has not honored him with membership, and it appears in print, and he threatens to ''give it to him again in another journal.'' Here is presented a spectacle of a solitary malicious ''review'' out of a very large number from the journals of various countries. What shall we say of this class of journal service for the American medical profession?

What matters it whether such a journal be prominent or obscure, influential or inconsequential? Is it not a question of honest and competent journalism? Is it not due the subscribers who support these journals, and who take their time to read them, that truthful information from reliable sources be provided? Medical men are supposed to be imbued with the scientific spirit which seeks the truth, the whole truth, and nothing but the truth. If this belief is not a farcical myth, shall our journals degrade the dignity of scientific journalism to the level of the country newspaper that imposes upon its readers who pay for news, and fills its columns with vituperation of its neighboring competitor?

Does it not pay, even reflexly, to be honest, fair and broad-minded? Medical journals, as a rule, maintain a liberal, and even a generous attitude toward those who earnestly labor to enrich our literature. Editors and experienced reviewers endeavor to give due credit for study and work, to give a faithful representation of the aims of authors and the manner in which they have fulfilled them. The first well recognized duty of a reviewer is to acquaint himself with the intentions of an author and the scheme of his work as it is customarily laid down in his preface. Then follows an impartial survey of the material which is to decide whether the author has accomplished his design or not. The result is, or should be, given in an impartial, disinterested manner, as a judge or jury passes on the law and the evidence. The reviewer is expected to rise above the petty jealousies and the degrading prejudices that too often characterize undisciplined minds. It should not be forgotten that a book may represent a lifetime of arduous labor, amidst the embarassing burdens of the additional toil necessary for earning a livelihood for the author and those who are dependent upon him. Unfair treatment at the hands of the press may sometimes mean a blasting of hopes, possibly a blighted reputation, and even worse to a highly sensitive nature.

It is not denied that a reviewer who never wrote a book may know better than an author how it should be written. The questions that must be decided to a nicety, the even balancing of subjects, the adjusting and proportioning of details, the discerning judgment that must be brought to bear in deciding just what is worthy and what unworthy of presentation, the taste that must be exercised, the pleasure or the vengeance of those who will expect to see their names quoted and their writings honored, the adaptation of one's language both to the novice and to the accomplished thinker, so that the perspicuity demanded by the one and the scholarship exacted by the other may not be disappointing—all these problems and a myriad more beset the author's task.

Considering all the points at issue, we may find it difficult to unite all interests in harmonious accord to strew the pathway of our journalism with flowers, to paint with roseate hues the offerings and sacrifices of our brother workers, but we can, in all honor, do no less than worship at the shrine of fairness and common honesty.

S. S. B.

SOCIETY PROCEEDINGS.

BRITISH MEDICAL ASSOCIATION'S MEETING.

SECTION OF LARYNGOLOGY AND OTOLOGY.

Dr. Greville MacDonald (London), President.

Specially reported by W. Permewan, M.D., F.R.C.S.

(Reprint from *The Journal of Laryngology*, Nov., 1897.)

Montreal, September 1, 2 and 3.

DISCUSSION ON TURBINOTOMY.

Opened by Greville MacDonald, M.D., President of the Section.

Gentlemen—Removal of larger or smaller portions of the turbinated bodies has been practiced more or less by us specialists ever since, I imagine, we first encountered those cases where the operation would obviously cure the patient of whatever symptoms might be attributable to such hypertrophy. But yet it is only quite lately that the word "turbinotomy" has become one of frequent use. And this indication of an enlarging interest in the subject inclines one to ask the questions, first, whether such operations are now performed in cases where formerly milder measures appeared to suffice; secondly, whether our patients are more expeditiously cured, and whether there is any possibility of too great an operative zeal resulting in actual harm to the patient.

I am excluding from my remarks all operations on the middle turbinal, seeing that it is not usual to admit this structure when using the word "turbinotomy," and also because it would lead us into regions too vast to be even prospected in the time at our disposal.

Resection of the inferior turbinal in part may be required (1) for the relief of obstruction to respiration; (2) for the relief of the various neuroses; and (3) for the relief of a very troublesome and rather uncommon form of catarrh.

For such affections or symptoms, removal of those large cauliflower, corrugated, or muriform masses, occupying more especially the anterior and posterior extremities of the bone, has been among the earlier triumphs of rhinology. For the grosser of such hypertrophies, the incandescent or cold snare have always been the chief methods adopted for operation; while the smaller are sometimes sufficiently reduced, if not eradicated, with the electro-cautery point.

There are cases where specialists of not very wide experience may fail to give all the relief they had hoped for by such methods. This generally arises from the fact that they overlook the large masses often concealed in the concavity of the overhanging bone. We sometimes see enormous masses in this region which can be shelled out, so to speak, with a probe, and either cut off with scissors or removed piecemeal with the snare. The latter is often preferable on account of the relatively small amount of hemorrhage it entails. I am somewhat anxious to emphasize this concealment of the much-hypertrophied tissue for the sake of recording my experience that in all such cases—and I have had my share of them—a cure can be effected without interfering with the bone; and I suspect it is in such cases, where the real difficulty is overlooked, that the danger may arise of considering it necessary to remove large portions or the whole of the inferior spongy bone.

Hypertrophy of the erectile tissue, moreover, has appeared to me to be more often associated with asthma than are other affections of the nose. And, correspondingly, the prognosis of hay fever and paroxysmal sneezing is better where the objective trouble is inferior turbinated hypertrophy than any other disease. So that for this reason alone it is incumbent on us to inquire into every method advocated for the relief of the obstruction in the inferior meatus.

But there are undoubtedly cases where the snaring or cauterizing of the mucous membrane is not sufficient to ensure the desired relief. In such, respiration through the fossæ is not necessarily obstructed, although, of course, it may be, and the specialist's attention is often drawn to the condition only by the accumulation of ropy mucous or muco-pus in the inferior meatus, which the patient experiences the greatest difficulty in removing from the nose by the ordinary methods. He is constantly wiping the nose, being unable to blow the accumulations into the handkerchief. The mucous, in fact, is imprisoned in the concavity of the inferior turbinal, as well as in the portion of the inferior meatus internal to the turbinal, by the relatively large size of the overhanging bony structure. The free border of the spongy bone may lie almost or quite in contact with the floor of the nose, and in a few cases we see adhesion of its anterior part to the floor beneath. This may result in the formation of a pocket with or without a small opening in its anterior portion. Into such a pocket the patient is constantly forcing the accumulations of mucous in his endeavors to clear the nose, the result being that he is never free.

In most of such cases, I believe, the fault lies in a structural malformation rather than a pathological condition. Just as in the many and extraordinary malformations of the septum with which we have so often to deal, the fault appears to have originated in a sort of error of co-ordination in the relative extent to which the septum and the vertical diameter of its containing chamber have arranged for their individual extension, so the inferior turbinal appears to have attained a size which would have been suitable only in a nasal fossa with a greater vertical capacity. But I have never seen any case where the bony structure appeared to be too large in the posterior regions of the fossæ, any more than deviations or hypertrophies of the septum are to be found in the regions brought into view with the post-rhinal mirror.

In these cases the only treatment that can be considered satisfactory is the paring off from the free border of the bone of as much of ts substance as will secure a free passage of air and mucous. This can usually be attained with scissors, or the combined use of scissors and snare, as practiced by Dundas Grant. But it is only the anterior portions that ever need such treatment in my experience; and I have never seen any case where it was necessary to do more than this. I have never been tempted to remove large portions of the inferior turbinal, beyond the masses of hypertrophy with which we are all so familiar. And although I have heard the views of those who advocate the larger operations on the inferior turbinal for the relief of obstruction to respiration, or for the removal of certain neuroses, yet while amply convinced of the feasibility of such operations and of the relief they may afford, while even admitting that no appreciable harm may result, yet, let me repeat, I have for my part not seen the cases where the desired relief could not be acquired by milder measures. The great hemorrhage, and the frequent necessity for plugging, render the operation graver than almost any other in the nose. And we have yet to see whether, in the course of a few more years, we shall not encounter in these patients definite evidence of chronic inflammation of the larynx, etc., resulting from the removal of what may be justly described as the most important organ of the nose.

In a series of experiments* made some years ago by myself, more especially with a view of ascertaining the degree of moisture and temperature of air after passing through the nasal fossæ, among other things I was able to show that the amount of moisture exhaled was diminished approximately to one-third or less after the application of cocaine, and the collapse of the inferior spongy body. Although this was only what one would expect, it adds weight to an impression pretty generally held that to the inferior turbinated body must be ascribed the most important function of the nose. Hence one may say that to remove this structure *in toto*, for the sake of restoring nasal respiration, must be paradoxical in the extreme, seeing that, from the physiological point of view, little or nothing can be gained thereby.

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* "On the Respiratory Functions of the Nose and their Relations to Certain Pathological Conditions." 1889.

For a last word, let me repeat that although it is frequently necessary to remove hypertrophied portions of the mucous membrane from both posterior and anterior extremities of the inferior turbinal, I have never yet seen a case where one could dream of gaining anything by the total ablation of this important structure.

Dr. Lincoln (New York) was agreed as to the advisability of removing as little of the bone as possible. When something more was required than galvano-cautery, ignipuncture, or the snaring of hypertrophied masses, he employed the surgical trephine; or in other cases he dissected off the mucous membrane, and cut off the edge of the bone with bone scissors. He did not recommend the knifeshare, as he thought it an inaccurate instrument.

Dr. Bryson Delavan (New York) was of opinion that the use of the so-called ''spokeshave'' was quite inadmissible in nasal surgery; we already had more accurate and safer methods, and he would like to hear the ultimate history of cases of complete removal. The desideratum was the maximum of relief with the minimum of destruction.

Mr. Carmalt Jones contributed some remarks on the after-effects of turbinotomy. It had been done first to relieve tinnitus aurium, and that sympton had been relieved in sixty per cent. Mouth breathing had been cured, the sense of smell improved, and anæmia had disappeared. In children inability to suck had been cured. There was always hemorrhage, but it was generally easily controlled, and secondary hemorrhage was rare. Suppuration in the ear occurred rarely. No death had followed the operation.

Mr. Lennox Browne thought that it was wiser to treat the cases for which turbinotomy was advocated by milder means, and in children especially he would never perform it. He suggested that many of the cases of catarrh for which it was performed were really cases of Tornwaldt's disease. He emphasized the fact that spurs or septal deviations were present in most cases of hypertrophic rhinitis, and required treatment.

Dr. Daly (Pittsburg) had removed turbinates in children with the happiest results, but agreed that it was rarely required. It was necessary to remove so much of the turbinates as would secure free breathing—any more was wrong.

Dr. Charles Warden was of opinion that attention to the septum would often obviate the necessity of operating on the turbinal bodies.

Dr. Permewan, like Drs. Delavan and MacDonald, objected to the word "spokeshave." It suggested operating on inanimate structures—an idea which dominated many rhinologists. He thought the complete operation was very rarely required, and was pleased to see the conservative spirit in nasal surgery more marked than at Bristol in 1894.

DISCUSSION ON THE SIGNIFICANCE OF LARYNGEAL PARALYSIS.

This was opened by Dr. Daly (Pittsburg), who said that paralysis of the laryngeal muscles might be due to lesions in the brain, the nerve nuclei or the nerve trunks, or to hysteria. There had been shown to be a cortical centre in the frontal operculum, apparently better differentiated on the right than on the left side. Cortical paralysis were rare, but depended on hemorrhage, softening or inflammation. Nuclear paralysis occurred mostly in chronic degeneration of the nervous centres. Trunk paralysis was much more common than the others, and it was due to pressure on or injury to the nerves, or to a neuritis—*e.g.*, the neuritis caused by diphtheria. Hysterical paralysis was often bilateral, but it might be unilateral, and might be combined with contracture of opponents. The question as to the cause of abductor paralysis was still unsettled, but he was inclined to agree with the view of Bosworth that, though pressure on the recurrent nerve might cause it, there is also present in these cases some pathological condition in the medulla.

Mr. Lennox Browne remarked that diphtherial paralysis was much more common in adults than in children. In right recurrent paralysis, as Mandl had indicated, there was generally apical mischief, pulmonary or pleural. As to hysterical aphonia, he thought it was often a premonition of structural change in the brain.

Dr. Shurley (Detroit) said that the fact had been established that there were two centres in the medulla and brain, respectively, one presiding over the automatic, the other over the voluntary movement of the larynx. As to so-called hysterical paralysis, the diagnosis and the prognosis was often most perplexing, and such cases were really often due to actual brain disease.

Dr. Delavan (New York) said that in right recurrent paralysis apical disease could seldom be demonstrated by physical examination, but was often seen *post mortem*. He had reported two cases of right recurrent paralysis, apparently caused by intralaryngeal diphtheria.

Dr. Permewan was of opinion that the most frequent cause of organic laryngeal paralysis was syphilis, either from the direct effect of gummatous deposit, or by its inducing nuclear or neuritic disease. Bilateral paralysis was generally due to central disease, but he had seen a case due to pressure on both recurrents. He believed in the existence of hysterical paralysis, but it was important to distinguish these cases from those in which aphonia was only one symptom of complete paralysis.

DISCUSSION ON THE ULTIMATE RESULTS OF OPERATIONS ON THE MASTOID IN SUPPURATIVE EAR DISEASE.

This was opened by Dr. Buller (Montreal), who said that there were two classes of cases requiring operation on the mastoid.

First, cases of purulent infiltration, occurring generally in the course of acute purulent disease of the middle ear, and more often in adults than in children, without actual death of the bone.

Secondly, cases of more chronic character, in which there was also caries or necrosis of more or less of the temporal bone.

The first class of cases invariably, in his experience, did well after operation, and hearing often completely recovered. The second class were more uncertain in result: it depended on the extent and amount of bone disease, and in operating it was most important to remove the whole of the diseased bone, care being taken not to injure important structures, of which the chief was the facial nerve. Of these cases the most unfavorable were those due to strumous disease. He emphasized the fact that mastoid operations, far from being of a trivial character, often required the greatest surgical skill for their thorough performance.

Dr. A. H. Buck (New York) divided cases into acute and chronic. The former nearly all did well. Prognosis in the latter depended on the thoroughness with which all diseased bone was removed. Bone of a high degree of vascularity, and in which there was stasis, should be removed, and granulation tissue in the pneumatic cells showed that the structure of them was diseased. It was important to have a large enough field of operation and a good light.

Dr. Clarence Blake said that the same rule obtained in mastoid operation as in all other surgical procedures—namely, to remove all inflamed tissue which is presumably incompetent of recovery. He often secured primary union of the external wound by allowing the cavity to fill with blood-clot and suturing the wound.

Dr. Ward Cousins said that the object of these operations was to remove diseased tissues and provide drainage, and the removal of large portions of the cortex of the mastoid was often a good procedure. He had never operated on a case in which he considered it advisable to close immediately the mastoid wound.

Dr. Graham Bacon remarked that temperature did not always fall immediately after operation; but one need not be discouraged by that. He believed that intracranial complication would be often found if carefully looked for.

Mr. Hugh E. Jones confined his remarks to chronic cases, and he had always performed the Stacke-Schwartze operation. No fatal result had occurred: facial paralysis had occurred four times, but two of these recovered completely. To avoid injuring the facial nerve, it was very important to have free opening and a good light. As regards hearing, the majority had been definitely and some greatly improved, though the improvement sometimes disappeared as the wound cicatrized. Pain was always relieved, and the discharge had in most cases practically stopped. It was not to be expected, however, or desired, that a cavity lined with mucous membrane should become entirely dry.

Papers were read on the following subjects:—

A Contribution to the Study of the Anatomy of the Fronto-Ethmoidal Region, by T. H. Bryan, of Washington.

The author described the fronto-ethmoidal cells which lie between the frontal sinus and the ethmoidal cells proper, and which are often affected in disease of the frontal sinus. The relation also of the infundibulum to the maxillary antrum was of much importance. Instead of terminating in the meatus, the infundibulum in many cases opened right in the foramen of the antrum, and thus inflammatory products were directed into the antrum from the frontal sinus.

The Relation of Nasal Disease to Pulmonary Tuberculosis, by E. Fletcher Ingalls, of Chicago.

This was an elaborate statistical inquiry based on more than fourteen thousand cases. The results seemed to show that instead of predisposing to pulmonary tuberculosis, nasal catarrh, if it has any influence, appears to prevent it. This antagonism was not surprising in view of the fact of the occurrence of hyperæmic conditions in nasal disease, and of profound anæmia in tuberculosis. The only possible exception may be found in atrophic rhinitis, though in this disease the occurrence of tuberculosis may only be a coincident effect of the general lowering of nutrition and health.

The Physiological and Pathological Relations between the Nose and the Sexual Apparatus, by J. N. Mackenzie, of Baltimore.

This relation was shown physiologically by the occurrence of nasal symptoms synchronously with menstruation, the occurrence of vicarious nasal menstruation, the nasal phenomena which accompany sexual excitement, and the occasional dependence of genito-urinary irritation on affections of the nasal passages. Pathologically it is shown by the aggravation of nasal affections during menstrual periods, the production of nasal catarrh by excessive sexual indulgence and by masturbation, and the occurrence of cases of nasal disease which resist treatment until co-existing disease of the generative organs has been cured.

The paper was illustrated by a wealth of classical learning which it is impossible to reproduce.

The Correction of Nasal Deformities by Subcutaneous Operations, by John O. Roe, of Rochester, New York.

The author pointed out that the great object to attain in operating on nasal deformities was to restore symmetry. To do this and to avoid external wounds it was best to operate from the interior of the nose. It was necessary to secure complete antisepsis, to study the plan of the operation with great care, and to follow a painstaking course of after-treatment. Illustrations of many excellent results were shown.

Recent Progress in the Surgical Treatment of Malignant Disease of the Larynx, by Bryson Delavan, of New York.

After a review of the recent work of Sendziak, Semon, Butlin and others, the author proceeded to discuss many points of the highest importance.

The early diagnosis of malignancy was essential, but was difficult. Microscopical appearances were sometimes misleading, as was also evidence derived from the position of the growth and the degree of mobility of the cords.

The question of preliminary tracheotomy was one of great moment. The author concluded that it was necessary, and, from various considerations, should be done not less than ten days before the major operation. In this way there was less shock, the patient got used to the tracheotomy tube before the serious operation on the larynx, and the thyrotomy was rendered easier. So, too, there was less risk of septic pneumonia, and the patient's condition improved after the tracheotomy, relieving him, as it did, from dyspnœa and imperfect aeration of the blood. The operation ought not to be undertaken except by an operator skilled in surgery, as it would otherwise fall into discredit.

Chronic Interarytenoid Laryngitis, by Price-Brown, of Toronto.

The author described five cases of chronic laryngitis in which the swelling was limited to the commissure. He raised the question as to whether they were a distinct type of disease, or whether they were to be classed as pachydermia on the one hand, and tubercular laryngitis on the other.

A Case of Foreign Body (Metallic Shoehorn) removed from the Larynx by Thyrotomy, by C. H. Knight, of New York.

This was a report of a case in which attempts had been unsuccessfully made to remove the foreign body by the aid of laryngoscopy, and by Kirstein's method of autoscopy. Thyrotomy was done six weeks after the impaction of the shoehorn—which caused no symptoms but aphonia—and the foreign body removed. Aphonia lasted some weeks after the operation, but eventually quite disappeared. Only the lower half of the thyroid cartilage was divided, together with three rings of the trachea.

Acute Syphilitic Stenosis of the Larynx; Intubation; Recovery, by J. O'Dwyer.

In a patient with acute œdema in the course of tertiary syphilis, O'Dwyer inserted a large intubation tube seven-eighths of an inch in diameter at the head, and allowed it to remain for ten days, when the obstructive symptoms quite disappeared. Intubation was more difficult in the adult than the child, but it may be done in some cases by the aid of the mirror. In many cases of phlegmonous inflammation the mouth could not be opened wide enough to allow the introduction of the mirror.

The Non-Operative Treatment of Chronic Suppurative Disease of the Antrum and Vault of the Tympanum, by Albert H. Buck, of New York.

While agreeing in the necessity of mastoid operations in many cases, there were still many in which a patient course of antiseptic treatment was sufficient, especially in private cases. This treatment consisted in removal of all *débris*, and of the careful disinfection of the tympanum by injection of hydrogen peroxide. Solutions of this drug both acted chemically, and also, by effervescing in contact with the decomposing material, mechanically removed the secretions.

The Operative Treatment of Mastoid Disease, by Clarence J. Blake, of Boston.

The author gave the result of thirty-six consecutive cases of mastoid operation during three months' service at the Massachusetts Eye and Ear Infirmary. He classed them under five heads:

1. Those which healed by first intention, the walls of the mastoid

being left intact and the cavity allowed to fill with blood. There were five of these, all acute and all in adults, and they all completely recovered.

2. Eighteen cases which healed slowly by granulation, the walls of the mastoid being left intact. Ten acute cases did well, and of eight chronic cases four were well three months after operating, and four were still under treatment.

3. Nine cases in which the dura mater was exposed. Six acute and three chronic. Of the acute cases one died of meningitis, and one of measles; one was well in three weeks and one in five, and two were at present convalescent in the out-patient department. Three chronic cases were still under treatment.

4. Three cases of extra-dural abscess, all of which were discharged well within six weeks of the operation.

5. Two cases of cerebral abscess, both of which recovered.

A Case of Mastoid Disease with Sinus Thrombosis; Evacuation of Sinus and Ligature of Internal Jugular Vein; Recovery, by F. Buller, of Montreal.

This was a report of a typical case, which recovered quickly after operation.

Phosphor Necrosis of the Temporal Bone, by H. D. Würdemann, of Milwaukee.

A man, working in a match factory, contracted necrosis of the jaw; later on there was pain in the mastoid, and a sinus was found in the posterior wall of the meatus. The mastoid was operated on, but two years afterward the caries still persisted, and great sclerosis of bone had taken place. There seemed to be no doubt of the causation in this case.

Some Points in Anatomy which have a Practical Bearing Upon Operations on the Temporal Bone in Diseases of the Ear, by Dr. Morse, of Boston.

This paper, illustrated by specimens, photographs, and diagrams, gave a comparative account of the dangers of the Schwartze and Stacke operations respectively. It was pointed out that in the Stacke operation there was risk of injuring the lateral sinus, the facial nerve, the stapes, tendon of the stapedius muscle, and the horizontal semicircular canal. The Schwartze method was therefore to be preferred where possible, but in some cases the groove of the sinus came so far forward that there was absolutely no antrum, and in these the Schwartze operation was impossible.

Eucaine as a Local Anæsthetic in the Surgery of the Throat, Nose and Ear, by W. Jobson Horne and Macleod Yearsley.

The authors found that eucaine was a satisfactory and safe substitute for cocaine. For examinations, a four per cent. solution was enough; and for operations, an eight per cent. to ten per cent. It must be applied directly after wiping away all mucous and *débris.* Anæsthesia lasted fifteen to twenty minutes, and there were never any toxic effects from the drug.

"WRINKLES."

Prof. Gibbs, of the University of Michigan, used to tell us to look out for "wrinkles."

We find them everywhere, and when filed away in our mental store-room for convenient reference, when least expected, we find them bridging over a disagreeable place or making a seeming failure a success.

The following "wrinkle" many may have tried:

The application of an eight per cent silver nitrate solution to the stump of an amputated tonsil. The eschar formed removes all soreness, chance of infection, stops bleeding and makes the patient happy.

Would it not be a good idea, Mr. Editor, to start a "Wrinkle Column" in your most valuable LARYNGOSCOPE? We all have a few "wrinkles" which would certainly benefit the general practitioner as well as the specialist.

J. A. PRATT, M.D.,
Aurora, Ill.

NEWS ITEMS.

British Laryngological, Rhinological and Otological Association.

At a meeting of the British Laryngological, Rhinological and Otological Association, July 16th, 1897, the following officers were elected for the ensuing year: President, Dr. Dundas Grant; Vice-Presidents, Mr. F. Marsh, Mr. G. C. Wilkin, Dr. J. Davidson; Council, Dr. W. Milligan, Dr. A. B. Kelly, Mr. V. H. Wyatt Wingrave, Dr. W. Hill, Mr. P. Jakins, Dr. H. Woods, Mr. Lake; Hon. Treasurer, Dr. MacNeil Whistler; Hon. Secretaries, Mr. St. George Reid and Dr. F. Potter.

Italian Society of Laryngology, Otology and Rhinology.

The third biennial meeting of the Italian Society of Laryngology, Otology and Rhinology will be held in Rome, commencing on October 28th. The subjects for the set discussions are: The Value of Autoscopy in the Diagnosis and Treatment of Laryngeal Affections; Adenoid Vegetations in Italy; Physiology of the Middle Ear. The President of the association is Dr. V. Grazzi and the Secretary Dr. A. Fasano, of Naples.

The Library of Sir Morell Mackenzie has been advertised for sale in a London auction room. Besides a large number of general works there are many recognized authorities on his specialties. Among his own contributions to medical literature there were many copies of his "Growths in the Larynx" and "The Laryngoscope," both published in 1871, also of "Leprosy of the Air Passages."

Removals.

Dr. G. Melville Black has removed to the Denison Building, 14th and Stout sts., Denver, Colo.

Dr. T. E. Murrell has removed to Tucson, Ariz.

A New Post-Graduate School.

The Chicago, Eye, Ear, Nose and Throat College is the latest aspirant for honors in the field of post-graduate schools. The faculty includes men of excellent standing, whose active interest in this institution bespeaks for it a successful career. The new school is located in the Trude Building.

Dr. W. A. Shoemaker.

Cards have been received announcing the approaching nuptials of Dr. W. A. Shoemaker of St. Louis and Miss Nellie Maxon. The marriage takes place Nov. 16th. The LARYNGOSCOPE tenders heartiest congratulations.

A Second Edition.

We note with pleasure that the popularity and ready sale of the excellent work of our esteemed associate, Dr. Seth Scott Bishop, on the ear, nose and throat, has exhausted the large first edition of the volume. A second edition is announced.

LARYNGOLOGICAL SOCIETY OF LONDON.

Ordinary meeting, Wednesday, November 10th, 1897.

The following cases, specimens and instruments were presented:

Case 1. New Tracheotomy Tube, for permanent use. Introduced by Sir Felix Semon.

Case 2. Dr. James Donelan: Syringe for making submucous injections of Guaiacol in Laryngeal Tuberculosis.

Case 3. Dr. J. B. Ball: Fibro-sarcoma of the Nasal Septum; patient and specimen.

Case 4. Mr. W. R. H. Stewart: Growths at base of Tongue.

Case 5. Mr. Morley Agar: Tumor of the Tongue; patient and specimen.

Case 6. Dr. J. W. Bond: Boy with Naso-pharyngeal Tumor.

Case 7. Mr. W. G. Spencer: Separation of Old-standing adhesion of Soft Palate to Pharynx.

Case 8. Dr. William Hill: Specimen showing Papilloma growing from the surface of a faucial Tonsil.

Case 9. Mr. Macleod Yearsley: Ulceration of Left Tonsil, Fauces and Soft Palate in a man aged seventy; probably malignant.

Case 10. Dr. Jobson Horne: Cyst of the Epiglottis.

Case 11. Dr. William Hill: Case of Lupus of the Larynx, etc.

Case 12. Dr. Scanes Spicer: Case of Paralysis of Right Vocal Cord, Palate and Pharynx in a man aged seventy-two, probably due to lesion of nerves high up in neck.

Case 13. Mr. E. W. Roughton: Laryngeal Tumor; a case for diagnosis.

Case 14. Dr. H. Tilley: Case of Chronic Hypertrophic Laryngitis simulating Malignant Disease.

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ORIGINAL COMMUNICATIONS.

THE TEXAS SCREW-WORM AND ITS INVASION OF THE NASAL CAVITIES.

BY M. A. GOLDSTEIN, M.D., ST. LOUIS.

Considerable interest has been manifested of late by the publication of a number of reports of cases from different sections of the country, describing the invasion of the human tissues, especially the nasal mucosa, by the larvæ or maggots of various species of fly.

Of the insects, whose larvæ have most frequently been described as attacking and infesting the human, may be mentioned those of the common blow fly, *Calliphora Vomitoria*, and especially those of the so-called Texas screw-worm, *Compsomyia* (*Lucillia*) *Macellaria*.

Entomologists and scientific observers have traced the first habitat of the *Compsomyia* (*Lucillia*) *Macellaria* to Mexico and South America. However, Dr. Williston, of Yale College, now writes that "it occurs everywhere from Canada to Patagonia."

Its centralization in North America seems to have been in the State of Texas, and from its common occurrence there, its frequent ravages among cattle, and its occasional invasion of the human family, together with the morphology of the larvæ, it has received the appellation of *Texas Screw-Worm Fly*.

Its effects were never seriously felt outside of Texas until the season of 1890. About this time the presence of this insect pest was reported from several localities in its ravages among cattle.

While this insect invader carries on its greatest work of destruction among cattle, it is of utmost importance for our rhinologists and aurists to be sufficiently conversant with the science of entomology to know that this pest will occasionally attack the human family, and several deaths have been recorded as the result of its invasion. Suffice it to say that the cavities of the head, especially those of the nose and ear, are usually the seat of invasion; this is more likely to occur when there exists a foul-smelling otorrhœa or ozœna. "It is one of the main characteristics of this fly that it is readily attracted by the odor of decaying animal and vegetable matter, and feeds very voraciously upon these until satisfied."

Observations and experiments have been made to establish the fact that the screw-worm fly will deposit her eggs upon decaying animal and vegetable matter, and that the maggots will thrive and mature in this substance.

In December, 1891, I instituted a series of personal investigations in a case of this character, which was placed in my charge at St. John's Hospital, of St. Louis.

As this case and the accompanying notes have never been published, I find this an opportune occasion for presenting the article:

A French farm laborer, æt. fifty years, a resident of East St. Louis, applied at the clinic for the relief of sudden and acute nasal pain. He gave the following brief account of the trouble: For several nights previous he had been sleeping in a hammock or on a bench in the open air, in the vicinity of a stock farm, to escape the intense summer's heat. During the last night he was awakened by a tickling sensation and buzzing in his nose, and on applying his hand, thought that he brushed away a large fly. There being no further disturbance, he continued his slumbers. On awaking the next morning there was a feeling of fullness in the nose, for which the patient could not account. For about five years he had had a chronic nasal catarrh, and considerable odor and discharge had been noted of late. From the details related, I also concluded that the nasal trouble was of a specific character, and that some necrosis of the nasal tissues must have taken place.

On examination, under reflected light, the entire left cavity of the nose was seen filled with a dense, light yellow mass. On removal of some of this for closer inspection, its composition was readily detected as that of a mass of eggs of some insect, later determined as those of the *Compsomyia* (*Lucillia*) *Macellaria*. Having some slight knowledge of the science of entomology, the serious nature of the case was recognized without delay, and steps were taken for the immediate removal of this mass of ovæ from the nose. With a blunt curette every visible portion of eggs was removed. Syringing or washing of the nasal cavities was avoided, as it was feared the force of the current might carry some of the eggs higher up into the nasal spaces. An actual count of the mass of ovæ removed showed the presence of over 500 single eggs. A careful inspection, after a thorough cleansing of the cavities, revealed a clear naris and it was supposed that the trouble had been eradicated. Extra precautions were taken, however, by advising the patient to use an antiseptic spray repeatedly.

Forty-eight hours later the patient again presented himself at the clinic; this time with his nose in a violent state of acute inflammation, complaining of excruciating pain, entire occlusion of nasal respiration and a sensation of "something moving" high up in the nasal cavity. Inspection revealed an intense infiltration of the mucous tissues, and an examination of the deeper areas of the nose was thus made impossible. After considerable difficulty, a small pledget of cotton, saturated in ten per cent. cocaine, was inserted. On second inspection, a group of round, glistening bodies, exhibiting some slight movement, were noticed deeply imbedded in the nasal mucosa. These were soon determined to be the ends of the recently developed screw-worms. As many of these as could be seen were removed with a mouse-tooth forceps. Dating from the history of the case, these maggots were about three days old, measured nearly one-half inch in length, and, judging from the life history of these larvæ, were about half matured. A point, worthy of notice, was the tenacity with which this larva clung to the mucous membrane when attempting removal with the forceps. It was feared that a number of these maggots had crawled beyond the reach of the instruments and had possibly found their way into the frontal sinus.

The patient was from this time on kept under almost constant observation at St. John's Hospital. In repeated sittings throughout the day, as soon as a maggot crawled into sight, it was seized with the forceps and removed. From day to day, the increase in the size of the larvæ was apparent.

Four days after the invasion of the host, the most serious aspect of the case developed. The nose and the surrounding areas of the face were swollen to an intense degree, the outer tissues red and infiltrated, the patient suffering fearful pain. In addition to this array of symptoms, facial erysipelas was threatened.

The region of the frontal sinuses showed the same glazed and swollen condition of the skin and the patient complained of the most intense pain in this area.

The ears were also involved through an extension of the inflammation through the posterior nares to the orifices of the Eustachian tubes. The patient had a temperature and pulse resembling that of septic fever.

The odor was exceedingly foul; there was complete nasal occlusion; the pharynx was swollen; palate and uvula ædematous. A number of the maggots found their way to the posterior nares and were "hawked" out by the patient.

On the sixth day, a point of fluctuation was observed in the greatly swollen skin of the dorsum of the nose, at about its center. A free incision was made, and a quantity of foul-smelling pus escaped. After the pus had been washed away, three fully-developed, live screw-worms were removed with the forceps. Examination with the probe revealed a communication with the nasal passages, which had been made by the boring of the maggots. A free drainage was now established, and the involved area was henceforth under better control. Potassium permanganate and two per cent. carbolic acid solution were the irrigating fluids used. During the next two days, twelve full-grown screw-worms were removed from time to time, some through the nares, and several from the outer wound. The nose was irrigated every three or four hours.

There was considerable suppuration and some sloughing of the mucous tissues which had been invaded.

The swelling, a fever and inflammatory reaction gradually subsided, and in three weeks the patient was discharged from the hospital.

It is interesting to note that the olfactory function, which had been completely held in abeyance, was fully restored and with the exception of a profuse discharge and sensitiveness of the entire nasal respiratory tract, for which patient was treated about two months, no further difficulties were observed.

Every antiseptic at command was tried, with the object in view of stupifying or killing the larvæ, but apparently without avail.

Antiseptics and germicides, which might have been efficacious in destroying the maggots, were scarcely found applicable, as the delicate tissues of the nasal cavities could not tolerate them.

In the disposal of the living maggots which I extracted with the forceps, it occurred to me to investigate the efficacy of the various remedies used for the destruction of the screw-worm.

The bulletins of the Louisiana and Texas State Experiment Stations (Department of Agriculture) on this subject are complete in every detail, yet the remedies which are described in the bulletins as being of value in the destruction of the screw-worm in cattle (chloroform, ether, carbolic acid, bichloride of mercury, turpentine, etc.,) were irritants and caustics of too powerful and destructive character to be used on the human mucosa.

I have tried all the enumerated materials, and my experiments scarcely tally with those of the bulletins.

For example, I have found the fully-matured maggot to live for four minutes in pure carbolic acid; in strong turpentine, for fifteen minutes. Chloroform has proved most satisfactory, as an exposure of thirty seconds to the atomized vapor invariably killed the worm. My observations in this direction were published in *Insect Life*, Vol. iv., Nos. 7 and 8 (U. S. Department Agriculture, Division of Entomology), in correspondence dated Dec. 13, 1891.

For the destruction of the screw-worm two factors must be taken into consideration: (1) The stupefaction or death of the worm. (2) The effect upon the wound that the agents necessary to destroy the maggot would have.

Of course, it is unnecessary to add that it is impossible to apply the powerful chemicals here enumerated, in the pure form, in the delicate areas of the nasal or aural cavities; again, in a diluted form, such remedies would fail to destroy a maggot of such wonderful vitality.

To demonstrate the vitality of the screw-worm, I may add that they crawled for several minutes over a surface strewn to the depth of one-eighth inch with pure calomel.

By actual count, over three hundred individual larvæ were removed in this case. This includes the large masses of small maggots removed in bunches with the curette and the fully-matured screw-worms removed singly or in small numbers by chloroform, the forceps, and the hawking and blowing efforts of the patient.

About fifty of the full-grown larvæ were kept alive and under observation. Many of these were used for experimentation, and some were observed as they assumed the pupa or chrysalis condition.

The fully-matured larva or maggot is three-fourths of an inch in length and about one-eighth inch in diameter. The body, of a creamy-white color, is made up of segments, while between each segment is a ring of bristles which causes the maggots to resemble a screw, and from this its name is derived.

To complete the sketch, the accompanying illustrations are added, showing the *Compsomyia* (*Lucillia*) *Macellaria* in its various stages.

Fig. 1.

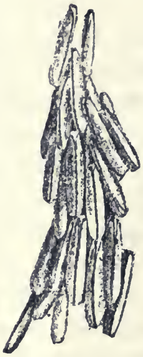
Fig. 2.

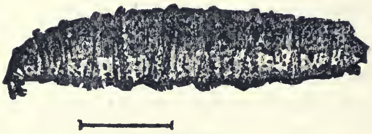
Fig. 3.

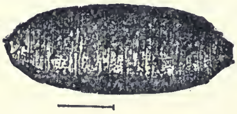
Fig. 4.

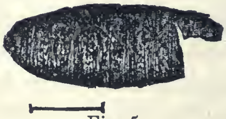
Fig. 5.

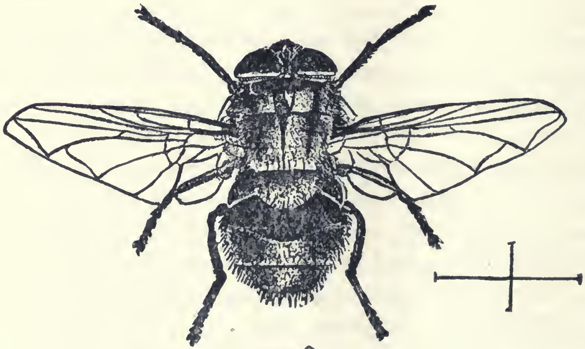
Fig. 6.

Fig. 1—Single egg, greatly enlarged. Fig. 2—Bunch of Eggs. Fig. 3—Larva ("Screw-Worm"). Fig. 4—Pupa, or Chrysalis. Fig. 5—Pupa-case, showing broken end where fly emerged. Fig. 6—Screw-Worm Fly, wings expanded.

(The illustrations have been taken from photo-engravings published in the bulletin of the Texas Agriculture Experiment Station, 1890.)

REPORT OF A CASE OF TWO HUNDRED AND SEVEN SCREW-WORMS TAKEN FROM THE NOSE.

BY HAL FOSTER, A.B., M.D., KANSAS CITY, MO.

Laryngologist to St. Margaret's Hospital.

A brief report of the above case will be interesting on account of its rarity.

On Sept. 28, I was requested to examine the nose of a woman admitted to St. Margaret's Hospital—Mrs. M., of this city, aged fifty years. She was a small, delicate Irish woman and kept house for a brother near the Missouri river. She had been under a physician's treatment for epileptic seizures for years, with some benefit. She had also been a victim of atrophic rhinitis for years. Notwithstanding the diseases, she was a hard-working woman and did washing, cooking, etc. About two weeks prior to her admission to the hospital she was seized with an epileptic convulsion while out in her little yard; being alone, she had no idea how long she was in that condition. Twenty-four hours later there seemed to be an itching of the nasal membranes, accompanied with frontal headache and paroxysms of sneezing. Her friends informed her that she had hay fever, and advised large doses of quinine, which she took for two days without any relief. The nose now began to bleed; this was followed by a very offensive discharge. The eyes and face were so badly swollen that she could scarcely see. She was unable to sleep. The purulent discharge from her nose was exceedingly offensive. I placed a Myles speculum in her nose and, by means of a good light, saw the entire nostrils filled with screw worms. With the aid of the Sister in charge, 207 were removed from the woman's nostrils. Inhalations of chloroform were used and the worms came out in great quantities. Equal parts of chloroform and hot water were syringed into both nostrils with telling results on the worms. The chloroform seemed to kill them immediately and I was then able to pick them out with forceps. There was a tumor on the front of the nose, caused by the worms sawing their way through. They had extended behind the palate, but had not entered the sinuses. The destruction of tissue was very great; the temperature was 102° F.

After they were all removed, her nose was washed out with peroxide of hydrogen. Weak solutions of formalin were used twice daily; campho-phenique was also used every morning; antiseptic ointments were inserted into the nose every night. Tonics of iron and strychnia were given with a nourishing diet. It was several days before she was able to swallow even liquid food without pain; this pain was overcome by the local use of eucaine. It took nearly six weeks for the old lady to get strong enough to leave the hospital.

She was placed on appropriate treatment for the catarrhal condition, and is now able to attend to her household duties.

Formalin, campho-phenique and chloroform are the best agents I know of to destroy these worms.

The screw fly deposited the larvæ in my patient's nose, where they rapidly developed. I have seen these worms in squirrels in the far South. They also frequently deposit their larvæ in the ears and nostrils of hogs and sheep. They are found in warm, dry climates. These flies are, in some localities, called saw flies, on account of their sawing motions while attacking their victims. They belong to the Hymenopterous or Tenthredinidal family, and during the hot, dry seasons frequently destroy animals and occasionally human beings. Twenty-four to forty-eight hours are required for the larvæ to hatch and immediately after their work of destruction begins.

Several years ago I had two other cases under my care. One was in a man suffering from chronic otorrhœa of the left ear. He became intoxicated and lay in a stable all day; while in that condition the larvæ was deposited in his ear. The patient came under my care forty-eight hours later, too early for the worms to have done much damage. In this case I was able to pick them out by means of forceps—they were three in number. Chloroform was used in his ear in order that any larvæ remaining might be destroyed.

The other case occurred in a woman suffering from atrophic rhinitis. They were removed early and were only five in number. In all cases reported the patients seem to have been sufferers of some chronic nose or ear disease, accompanied with bad odors.

When these worms are fully developed they saw their way through bony structure, enter the sinuses and even the brain. The late Dr. MacKenzie reports a number of cases where the patients had died of meningitis, caused from worms in the nose. His cases came from India. Farmers and stockmen have informed me that they were quite common in cattle in the Indian Territory.

When the worms are first discovered in the nose or ears, great care should be used to destroy the larvæ. In order to do this, some of the drugs named should be used, even after those in sight have been removed; by this treatment any remaining unseen will be killed.

In all of my patients the worms had caused great shock to the nervous system.

REPORT OF A CASE OF WORMS IN THE NOSTRILS, OR PEENASH.

BY J. S. STEELE, M.D., MONTEREY, MEXICO.

Consulting Oculist, Mexican National R. R.

In the October number of THE LARYNGOSCOPE a case of worms in the nose was reported as being one excitant in recurring epistaxis. Of course, worms in the nose will cause epistaxis, and I believe *continuous*, *not* recurring, until either patient or worms are dead. During the past summer I was called to see an engineer who was suffering with severe frontal headache, especially between the eyes, and a continuous dropping of a sanguinous fluid from the nose. On examination, found the nose literally alive, so to speak, with worms. The subjective symptoms had lasted for three days. After removing a few of the maggots with forceps, not having chloroform, I blew calomel up each nostril, and left patient, to return in two hours, when I found patient free from pain and a decrease in amount of discharge. By the aid of a douche, succeeded in washing out about one hundred worms, after which I placed a piece of cotton, saturated with chloroform, up each nostril, instructing patient to hold his nose and blow, as in inflating the middle ear, which performance was repeated several times at two different sittings, with the result of completely ridding the man of his unwelcome visitors and their attendant symptoms. Patient was suffering with specific nasal catarrh, with necrosis. etc. On questioning him, he stated that four days previous, while strolling around the plaza, a fly had flown into one of his nostrils, and that he had immediately blown it out of the other, remarking at the time, to a friend, of his ability to do so.

IMPAIRED VENTILATION AND DRAINAGE OF THE NOSE THE MOST COMMON CAUSES OF NASAL CATARRH.*

BY EDWIN PYNCHON, M.D., CHICAGO, ILL.

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Ear Infirmary, Chicago.

The physiology of the nose was, until recent years, but imperfectly understood. Text books on physiology, of but little more than a quarter of a century ago, taught that the nose was the organ of smell and the passage through which respiration was conducted, and nothing more. No hint was given that any effect upon the air was derived from its passage through the nose. No mention was made of the sounding-board influence of a patent nose upon the voice. In those days the pathology of nasal catarrh was quite in keeping with the meagre knowledge extant as to the physiological uses of the nose. The good old family physician then regarded nasal catarrh as being practically incurable and largely dependent upon mal-condition of the stomach, or else a result of general poor health, and believed that the only treatment which would give promise of improvement or cure was vigorous internal medication of a powerful alterative and tonic character. Hence, as might be readily inferred, with such a faulty pathology, associated with such an imperfect idea as to the physiology of the nose, the treatment of nasal catarrh was so unsatisfactory that it became the opprobrium of the practice of medicine.

At last a change came in medicine, as regards the nose, and its anatomy was more carefully studied. Advances were also made in the study of nasal physiology, and it was learned that the nasal fossæ were something more than simply two "blow holes" for convenience in respiration. Different investigators have independently made a careful study of the nose, and, as their several results have in the main agreed, we now know approximately the form and character of a perfect nose, which, if even seldom met with, we should always keep in our mind's eye as an ideal standard. Our ideas of nasal physiology are also crystalized into a rational form.

In an ideal nose the two fossæ are identical in size. The septum is vertical and its walls nearly plane. It is not deformed by bony, cartilaginous or soft growths of exuberant tissue, rhinologically known as exostosis, enchondromata, etc. The turbinated bodies are of symmetrical shape, and in no case at any point should they touch the septum. Through the tortuous convolutions of these bodies the area of the nasal mucous membrane is materially increased. The inferior meatus should be clear and the inferior turbinal should never touch the floor of the nasal passage. The middle meatus should also be clear—meaning that at no point should the inferior and middle turbinals touch each other. The superior meatus should likewise be free and there should be enough free space for the so-called superior turbinal, and even for a fourth turbinal, if such anomaly be present. This upper portion of the nose may be called the nasal attic and its proper shape and condition is of more importance in the consideration of nasal catarrh than has been generally appreciated.

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*Read before the Chicago Medical Society, November 24, 1897.

Finally, as a result of the combination of the requirements noted, we find that in an ideal nose no two adjacent or opposing surfaces should ever touch each other at any point or at any time. The amount of free space required about the turbinal varies with its location. The turbinals may be regarded as erectile structures, the inferior possessing the power of distention to a marked degree, and hence requires more free space about it than does the middle turbinal, the most erectile portions of which are the inferior surface and posterior end. By anterior rhinoscopy a normal inferior turbinal is found to have about it, when most shrunken, a space of not less than $^1/_8$ to $^3/_{16}$ inch, while the space between the septum and the middle turbinal is about $^1/_{16}$ inch. Such free space about the turbinals is required in order that they may have sufficient room in which to swell. When, owing to growths upon the septum or to a deflection thereof, or any other cause or causes, such space is not given, contact, even if not continuous, occurs periodically, or whenever swelling of the turbinals takes place. In this way is explained the great susceptibility of many patients to frequent attacks of coryza and also why stoppage of the nose is so often complained of when the patient is in the recumbent posture, which position tends to increase turbinal congestion. Contact in one nostril generally means contact at some point in the other nostril, hence alternating stenosis is frequently noted. When the nasal spaces are materially increased in size beyond the normal, it causes the disadvantages of atrophy and is even a greater defect than is stenosis. When the two nares are unequal in size, one being stenosed, the other is compelled to do the greater part of the work and may be so overworked that it cannot properly fulfill its physiological functions. While secreting only enough nasal fluid to properly humidify one-half of the air inspired, it is giving entrance to much more than half of the air required; hence this air is not sufficiently humidified, and, as it enters in a larger column, it is likewise not so well warmed. Furthermore, the increased volume of air entering tends to dry the mucous membrane to an abnormal degree and is therefore harmful.

Through the mobility of the alæ nasi, in combination with those slight growths upon the cartilaginous septum which are so frequently met with, a certain degree of anterior stenosis is as often observed, being usually more pronounced during inspiration than during expiration. Anterior nasal stenosis tends to produce posterior congestion, for, when present, the air in the post-nasal space during respiration is alternately rarified and condensed, the same as though it were being operated upon by an air pump, hence a hyperæmia is kept up which in time may result in posterior turbinal hypertrophies or posterior enlargements upon the vomer. Varying air pressure in the post-nasal space has long been recognized as being a frequent cause of Eustachian tubal congestion and catarrh. A stenosis of one nostril will frequently cause a hyperæmia of the other nostril even though it be free from structural defect.

Connected with the nose by suitable openings are several accessory cavities, the perfect drainage of which is dependent upon proper potency of the nasal meatuses and, in fact, of the entire nasal fossa. Physiological research has established the fact that the most important function of the nose is to warm and humidify the air inspired. By being warmed the air is also slightly rarified. Of course it is additionally known that large particles of floating matter are caught by the hairs located near the external meatuses, that small particles of dust become attached to the mucous membrane through the tenacity of the nasal secretion, and are in due time blown into the handkerchief; also that noxious vapors and gases cause sudden swelling of the turbinals, increase the flow of nasal secretion, and often provoke protective sneezing.

In a healthy adult nose the quantity of the nasal secretion approximates one pint each twenty-four hours, and its character is watery and of a specific gravity of about 1015°. The quantity mentioned—one pint—is none too great to properly humidify the large quantity of air inspired. Taking for an average 18 respirations per minute, we have 1,080 per hour, 25,920 per day, 9,467,280 per year, and so on through life, and, as at each breath in the adult male, there is taken into the lungs, on an average, one pint or 20 cubic inches of air, we have $12^1/_2$ cubic feet per hour, 300 cubic feet per day, and 109,575 cubic feet per annum, or enough to fill a cistern 60 feet square and over 30 feet in depth.

In order that this vast quantity of air may easily pass through the nose and be properly prepared for the lungs, it is essential that the nasal fossæ be free and unobstructed by deformities. If the requirements, as previously given, are fulfilled, viz: there being in every case a sufficient space between opposing surfaces, and in no case two opposing surfaces touching each other, the entering air will freely pass through all parts of the nasal fossæ, including the deep recesses of the meatuses, so that every part thereof will be thoroughly and perfectly ventilated, and, as a result, the nasal secretion will be continuously evaporated so there will be no opportunity for it to thicken and become a catarrhal discharge.

In addition to the prevention of evaporation through contact of two opposing surfaces, drainage is likewise at the same time impaired. Growths upon the septum, even when no contact exists, by destroying the symmetry of the passage, interfere with drainage, particularly when the patient is in a recumbent posture, and in this way cause, through the accumulation of secretion at such points, a thickening thereof which in turn prevents the required evaporation.

A second result of the touching of parts in the nasal passages is the production of a condition of inflammation of the membrane which in time becomes chronic, and which changes the character of the secretion, rendering the evaporation thereof more difficult and thus increasing the tendency to catarrhal decomposition and discharge.

Through the increased sensitiveness associated with such inflammation, we often have an explanation for the manifestations of hay fever, asthma, etc., which, regardless of any concomitant uric acid condition, are best relieved by such surgical steps as will insure perfect intranasal ventilation and drainage.

The excitation of cold, or of dust, or any other irritating quality of the air being inspired, causes a swelling of the turbinals through a congestion of the capillaries of the same, which capillaries are larger than those in other parts. By being so congested the increased supply of blood gives increased heat, and furthermore, through the swelling, the lumen of the passages is reduced in size, causing the air to pass through under great pressure and in a thinner column, so that it may be more thoroughly exposed to the heated turbinals. Simultaneously with the swelling of the turbinals, the nasal secretion becomes greater in quantity, so as to better humidify the air and attract the dust or cause its precipitation. Furthermore, evaporation of this secretion is more rapid owing to the increased rapidity of the air current.

The ophthalmologist ever has in his mind the emmetropic eye, though such eyes are rarely to be met with. The refracting of abnormal eyes, and the surgical or gymnastic correction by prisms of muscle inequality or strain, are merely efforts to cause the defective eye to more nearly resemble the emmetropic standard. In the same way the duty of the rhinologist is, on the same principle, to cause the defective nose, as nearly as possible, to become patterned after the ideal standard, and in this way we have the key to the cure of nasal catarrh.

Chronic nasal catarrh is chiefly a structural disease, and its cure generally consists in the removal of hypertrophied or pathological tissue.

Meyer was one of the first to make a decided advance, and one of great import, when he published the result of his studies of adenoid hypertrophy, showing its causative effect in the production of both post-nasal catarrh and trouble of the ears.

In a small per cent. of cases nasal catarrh is due to a catarrhal or empyemic condition of some one or other of the accessory cavities, though, in my experience, such conditions are invariably associated with other nasal defects, wherein either some degree of hypertrophy impairs the ventilation and drainage of the fossa, or else a condition of atrophy is present, and, therefore, in either event, presenting a structural change.

Atrophic degeneration, if not a sequella of the hypertrophic condition, is frequently found associated therewith—so often, in fact, that it would seem to be ample proof that atrophy is frequently a late stage of that which began as a hypertrophy. A frequent cause of atrophy is the presence of septum growths, against which unyielding points the opposing turbinal is caused to press each time it becomes distended until, after years of such restraint, its normal contractile elacticity is impaired and, through the irritation long kept up, hypertrophy follows, which in time is succeeded by pressure-atrophy. Thus we see the result of Nature's awkward effort to remedy the hypertrophy and stenosis. While Nature is ever trying to correct defects, her aim should be anticipated and her footsteps guided, else she may go astray. As the condition of atrophy advances the nostril gradually increases in caliber until it becomes abnormally large, and hence there is lost, to a corresponding degree, the physiological property of moistening and warming the inspired air. Such secretions as are present, being too dense to evaporate, become incrusted and decomposed, and frequently are instrumental in causing the breath to be offensive. In the treatment of atrophic rhinitis, while a return to structural form is seldom attained, the condition is greatly benefitted by following out the line of practice recommended in this paper, viz.: the correction of all hypertrophic conditions existing so that all parts of the nasal fossæ—meaning in this case particularly the attic—shall be thoroughly ventilated and drained.

Perforation of the nasal septum, even though the turbinals remain normal, produces the equivalent of atrophic rhinitis to the extent of the size of the perforation, and is an unfortunate structural deformity which, in the present state of the art, is incurable.

It is not within the scope of this paper to attempt the consideration of the remote or primary causes of deformities of the bony or cartilaginous tissues of the nose. Some of the causes of hypertrophy of the soft tissues have already been touched upon, and among others may be mentioned recurrent attacks of coryza, induced by climatic changes generally, and particularly by those frequent and sudden changes from heat to cold, and from dryness to humidity, so continuously made by going in and out of our modern, overheated, and too often poorly ventilated, residences and public buildings. Additionally dietetic irregularities, the wearing of cotton instead of woolen underwear, and many other customs of latter-day civilization may be cited as predisposing causes.

In this paper only the present condition of chronic nasal catarrh is being considered, coupled with nothing more specific than the general principles of treatment.

The correcting of nasal deformities is much like the remodelling of an old house. With a sufficient amount of patience and perseverance on the part of the patient, and of careful and systematic work on the part of the surgeon, results satisfactory to both will in a very large per cent of cases be obtained. It is far better that nasal defects be corrected early in life, and as soon as recognized, for, in this way, the kindly help of Nature will be secured, and at a time before she, through misguided efforts to improve, has unfortunately done damage which will be difficult to remedy.

When the laity, as well as the rank and file of the profession, fully recognize the great import of nasal deformity, it will be quite as customary to have the rhinologist examine and correct the defects of the nose as it is now to make annual visits upon the dentist in order that the teeth may be kept in perfect repair.

Conclusions:

1. That chronic nasal catarrh is chiefly a structural disease.
2. That impairment of ventilation and drainage of the nasal fossæ are the most important causative elements.
3. That the touching of opposing surfaces is one of the most important pathological factors.
4. That the line of treatment is largely surgical, and the chief object aimed at is to cause the defective nose to conform, as nearly as possible, to the shape of the ideal standard.

Columbus Memorial Building.

The Hygiene of the Child's Voice.

F. C. Ewing, in the *Medical Review*, presents a most timely paper. The author does not discuss defects of articulation, but confines himself to those conditions influencing *timbre*, and is, as it claims to be, "a plea for excellence in *tone*." These conditions are classified as Pathologic Affections of the Vocal Passages, Conditions Influencing General Health, Faulty Use of Voice.

The pathologic affections pointed out are those producing nasal obstruction to enlarged tonsils, palatal fissure, deviated septum, catarrhs, adenoids, etc., all of which should be treated early before the nasal twang becomes fixed as a habit.

Under conditions influencing general health the writer dwells upon the importance of an outdoor life, free exercise in the open, and certain breathing gymnastics for those whose circumstances of life curtail outdoor exercise. Attention is called to the fact that the inhabitants of southerly countries, who live much in the open air, have softer and more musical voices than those of northerly tribes; persons country-bred, as a rule, have louder and finer voices than those city-reared.

The faulty use of voice, involving generally *pitch*, oftener requires training by the elocution master, though intelligent and persistent parental attention may do much to modify the unnatural tone by lowering pitch. Faulty use of voice is very capable of correction, and the paper advocates a "talking master" for our public schools—some one to direct the control of voice of both teachers and pupils, since a large majority of the former are hoarse, proof that they are ignorant of the laws of vocal control.

BULBOUS OR CLUBBED FINGERS.

FRANK M. RUMBOLD, M.D., ST. LOUIS.

In looking up the literature one is impressed with the paucity of observation made and the little that has been said on this subject by our writers. Even in that truly wonderful work, the Index Catalogue of the Surgeon-General's Library, but little is found in the way of bibliography.

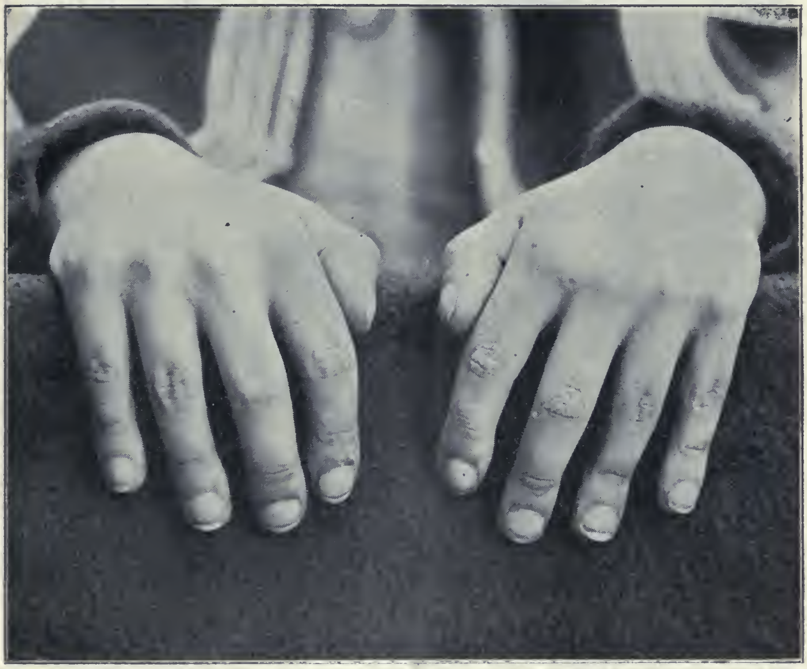

FIGURE 1.—Bulbous or Clubbed Fingers.

Bulbous or clubbed fingers and nails are met with in about twenty-seven per cent. of cases of pulmonary phthisis, and while the so-called authorities do not consider this condition pathognomomic, it is considered worthy of attention. Some authors mention it as occurring occasionally in functional heart trouble and pleuro-pneumonia. The writer believes it is always indicative of some form of "lung disease," and that its presence should always cause the physician to make a careful physical examination of the chest. In none of the published records of cases available is there any attempt made to explain the phenomena. That it must be due to some circulatory disturbance would seem to be self-evident, and it would also seem that the nervous apparatus was also involved, but to what extent is not as yet clear.

The following case is reported because of its striking appearance:

E. N—., female, æt. seven, was brought to my office September 30th, of the present year, on account of a persistent cough. In handing the patient a tongue depressor my attention was at once attracted to her fingers, and upon questioning the mother elicited the following history: On February 3, 1897, the child was taken sick with what the attending physician pronounced pleuro-pneumonia; was confined to bed for seven weeks with fever. For four weeks additional she remained in bed, as she felt disinclined to exert herself in any way. From this time on convalescence was slow, and she was troubled with a constant, irritating cough. Her previous health had been excellent. During the latter part of her confinement to bed her mother noticed that her finger nails, which had previously

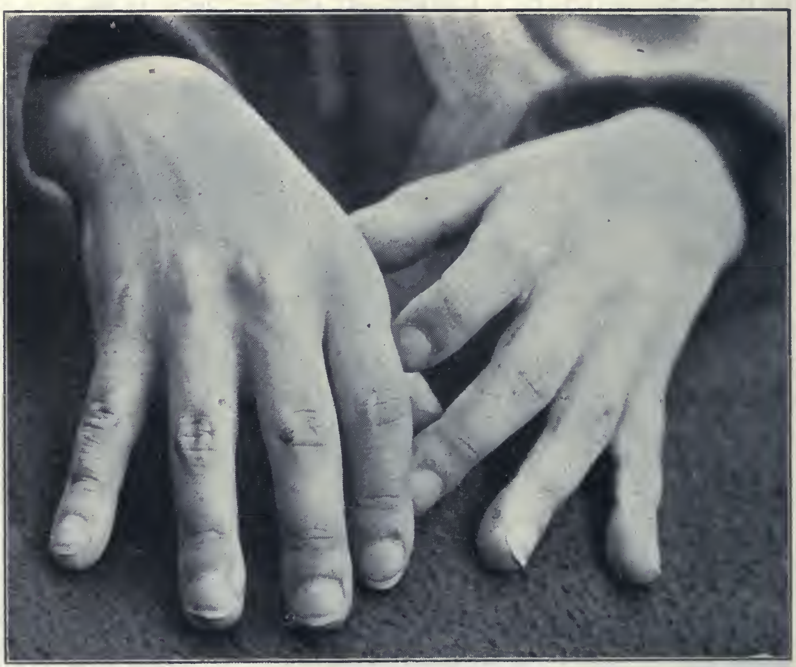

FIGURE 2.—Bulbous or Clubbed Fingers.

been of the "filbert" variety, were becoming clubbed, also that the distal phalanx was becoming enlarged. The child complained of pain when the ends of the fingers were touched, and was greatly troubled with "hang nails." Laryngoscopic examination showed the mucosa of the upper respiratory tract inflamed, and considerable hypertrophy and hyperplasia present in the nasal cavities.

Physical examination revealed a slight hypertrophy of the heart and the presence of friction and moist rales. Microscopic examination of sputum failed to show any tubercle bacilli; weight, 44 lbs.

The accompanying illustrations hardly give an idea of the great deformity. The clubbing of the nails is plainly shown in both figures. The bulbous extremity of the fingers is best illustrated in the third and fourth fingers of the left hand, in figure 2. It will be noted that the fingers taper till the distal joint is reached, and then the enlargement begins almost abruptly. The great toes are similarly affected.

Nasal Mucous Membrane as a Remedy.

Dr. Rivière, of Lyons (*Lyon Médical*, September 19th), reports that he has employed in the treatment of a certain number of nasal affections a fluid extract of the pituitary mucous membrane prepared by Dr. Jacquet in the following manner: The mucous membrane of the middle and lower turbinated bones of the sheep is macerated for twenty-four hours, at a temperature kept at 149° F., in water containing four parts of resorcin in a thousand; the liquid is then filtered and subjected to the same degree of heat for twenty-four hours more. The results of the use of this preparation, says Rivière, are analogous to those produced with other substances that are efficient in cases of perforation of the septum, rhinitis sicca and rebellious syphilitic disease of the nose. In a grave case of ozæna that had relapsed after various sorts of treatment, including the employment of electrolysis, applications of the pituitary extract, after cleansing, were followed by a rapid subsidence of the odor and then by greater benefit in every way than is generally obtained by the use of procedures less innocent or more difficult.—*New York Medical Journal*, October 30, 1897.

HAY FEVER AND CORYZA — THEIR RELATIONS AND TREATMENT.

BY SETH SCOTT BISHOP, B.S., M.D.

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It has been demonstrated repeatedly that sufferers from hay fever are subjects of uricacidæmia. By urinalysis, I have found the proportion of uric acid to urea excreted as high as 1 to 23 in some cases, while the normal relation is about 1 to 33. In other instances the excessive proportion of uric acid is less, but marked. Treatment of such cases with those remedies that eliminate the acid from the blood relieves and prevents the suffering. So we have the proofs of both chemistry and experimental therapeutics that an excessive proportion of uric acid in the blood bears a causative relation to hay fever.

It is by no means contended that uricacidæmia is the sole cause of this disease, but it is an exceedingly important factor that must not be overlooked if the disease is to be conquered. In 1893, the author proposed the uric acid theory of hay fever, in a paper on the subject, at the meeting of the American Medical Association. Since then, further studies and experiments have not only confirmed the propositions laid down at that time, but have appeared to substantiate a causative relation between uricacidæmia and coryza, a condition correlative to hay fever.

Hay fever and coryza are not identical diseases. Hay fever is not an inflammatory disease, while coryza, or acute rhinitis, is. They are closely related to each other. Indeed, there are many maladies closely allied to paroxysms of hay fever, or nervous catarrh. For example: asthma, intense itching, oversensitiveness of the skin, neuralgia, sick headache, irritability of temper, etc. The first three conditions often characterize attacks of hay fever. Migraine sometimes alternates with these attacks, and at other times supplants them. Uricacidæmia is provocative of all these conditions.

Now it may be asked: "What does uric acid do?" In answer, I will quote from Haig: "Uric acid in the blood contracts the arterioles and capillaries all over the body, producing the cold surface and extremities, raising tension of pulse, and, according to Marcy's law, that pulse rate varies inversely as the arterial tension, slowing the heart. Headache is a local vascular effect of the uric acid. Excretion of this acid may even explain the mental depression and irritability and their results in the excess of suicides and murders in July. There is an excessive secretion of this acid in the warm months, and a minus excretion in cold weather. During plus excretion there will be high arterial tension, with anæmia of the brain, bad temper, etc. At this time a dose of acid would free the brain circulation from the power of the uric acid, and produce, as Roy and Sherrington have shown, an increase in the size and a free flow of blood in its vessels.''

In health, about five to eight grains of uric acid are secreted every twenty-four hours, and it is readily soluble in the blood, which is slightly alkaline. If there is increased formation of this acid, no harm results so long as it is properly eliminated and the ratio between it and the urea is not disturbed.

The uric acid theory of hay fever is not antagonistic to the present status of medical opinion or surgical treatment, but, on the contrary, explains questions that were inexplicable before. As a tumor or hypertrophied bone may give rise to convulsive seizures in epilepsy, and as its removal may be followed by relief when no other structural cause exists, so in hay fever, where new growths and other lesions of the nasal mucous membrane are present, the attack may be started by the accumulation and the suddenly setting free of uric acid. This precipitates the paroxysm by its irritant action, which finds expression in the group of symptoms characteristic of hay fever or asthma, instead of some one of the other allied diseases. The particular form of manifestation may be determined by the growth, or seat of irritation, located in the nasal cavities. Where this is the only determining factor of the nature of the morbid symtoms, no other organic disease having resulted from the long-standing trouble, the removal of such a peripheral source of irritation may give relief from these symptoms, but it may not prevent the uricacidæmia from switching off into other kindred lines of disturbances if it be not corrected.

The uric acid theory makes clear the reasons why some persons suffer from attacks of hay fever under certain favorable conditions in winter, as well as during the warm months. It also unifies all the various forms of the disease. They are all variations of a nervous catarrh.

Impressed with the striking similarity of hay fever and coryza, I resolved to experiment with remedies that were successful in hay fever, to learn if they were effective in coryza also. I had demonstrated a great many times that a combination of morphia, atropia and caffein in the proportion, respectively, of $^1/_{12}$ grain, $^1/_{600}$ gr. and $^1/_6$ gr. would avert or abort attacks of hay fever and of coryza in their initial stages. I had experienced the same results with effervescent citrate of lithia in hay fever, so I improved every opportunity to test the efficacy of lithia in coryza, and found that if it were taken in doses of about 10 grains in a tumblerful of water, when the first symptoms of acute rhinitis appeared, the full development of the disease was prevented. Indeed, on the following day, when the patient ordinarily would have suffered much distress, he was free from any symptoms. In some cases the dose of lithia was repeated, even several times, but the threatened rhinitis was cut short and failed to develop while the blood was flooded with the lithia solution. In the cases where urinalysis was made uric acid in excess was found.

Now the question arises: What has uric acid to do with causing a cold in the head? Bearing in mind what has already been said, the relevancy of the following observations will become apparent: Uric acid is readily solvent in the alkaline blood, and is largely eliminated by the secretion of the skin. Chilling the skin produces cold in the head, or coryza. This chilling arrests the secretion of the skin and checks the elimination of uric acid from this surface, besides diminishing the circulation of the blood in the capillaries of the skin, and by thus disturbing the normal balance of circulation it throws an excess of blood into the already weakened blood vessels of a predisposed organ—in this case, the nose. Moreover, in fever the blood becomes of an acid reaction, but cold renders it alkaline, in which state it readily takes up the excess of uric acid stored in the more alkaline tissues and becomes rich in this irritant of the vessels.

Hence the relation of hay fever to coryza becomes apparent. The initial stage of the latter is correlative to the former, and the remedies for one are successfully applicable to the other. Reduce the alkalinity of the blood, excite free secretion of the skin to eliminate the excess of uric acid, restore the balance of circulation, and nature will do the rest. Remedies that quickly rid the blood of the excess of uric acid, like lithia, produce prompt results. The physiological action of the coryza tablets referred to is too apparently applicable to require further elucidation.

It hardly seems necessary to add that a vegetable diet, abstinence from meats, sweets, wines and beer, appropriate exercise, and the removal of any peripheral causes of irritation, are necessary factors in the treatment.

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ANATOMICAL OBSERVATIONS WHICH EXPLAIN WHY MASTOIDITIS DOES NOT OCCUR WITH MORE FREQUENCY IN CASES OF SUPPURATIVE OTITIS MEDIA.

An Oral Communication to the First Spanish Oto-Rhino-Laryngological Congress,

BY DR. FORUS, OF MADRID.

Translated and Abridged

BY VINCENT GOMEZ, M.D., OF NEW YORK,

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I have often asked myself the question: Why is it that cases of suppurative otitis media being so frequent, mastoiditis is not produced in proportion to this frequency? Could this be explained by the fact that the patient being in the erect posture the greater part of the time, the perforation takes place in a more or less low position in the tympanic membrane, and the purulent discharge makes its exit with greater facility? I have been convinced that this is not the reason, because as the patient is in *decubitus supinus* the *aditus ad antrum* is at a lower level than the tympanic cavity, and the pus, by its own weight, would fill the mastoid cavity before one drop could come out of the tympanic perforation.

Now, as this only occurs in exceptional cases, I have endeavored to investigate its cause, and after having made careful dissections of fresh temporal bones, I have come to the conclusion that the process is due to the anatomical disposition of this region, which is quite different from the description given of it by recognized authorities.

The tympanic cavity is not an exclusive cavity. This cavity which, during embryonic fetal life, is filled with a gelatinous conjunctival tissue, is emptied soon after birth; but the process of reabsorption gives rise to various fibro-mucous fold, which are like membranes, of more or less marked consistence, which have been partially described by some with the name of ligaments, and which, on the whole, are nothing more or less than a species of epithelium, which covers and protects all and each of the structures within the tympanum. This process gives origin to a system of cavities which divide the tympanic cavity into various compartments.

Of these there are two of great anatomo-pathological importance—one, antero-inferior, which I propose should be called *tubal compartment* of the tympanum; and another, postero-superior, which may be called *atico-mastoid* compartment.

The septum which separates these compartments, and which encloses in its thickness the chain of ossicles, originates above the Eustachian tube, and extends along its anterior part in the form of a tent from the external to the internal wall of the tympanic cavity. At the external surface it surrounds the anterior muscle of the malleus, the existence of which I have been enabled to prove on the cadaver, although none of the modern anatomists make mention of said muscle.

Now, from this point, which is the anterior-external limit, it runs towards the internal wall, protecting the chorda tympani from where it leaves the anterior pocket of Von Troelstsch, forming a very acute angle with the tendon of the referred anterior muscle of the malleus. The membranous expansion before reaching the malleus receives the reflex tendon of the internal muscle of the same, and from this point it gives off various expansions. Some, the internal, go to form all those ligaments which unite the hammer and its neck to the immediate regions, and which have been described by some anatomists. Another continues up to the long process of the incus along the postero-internal portion, constituting a sort of diaphragm, which has been described by Urbantschitsch, and which reaches the posterior part of the promintory, above the round window, continuing along the stapes, the latter being surrounded by it up to its base, and extends up to the posterior wall to protect the tendon of the stapedius muscle. Other posterior expansions give rise to the posterior ligaments of the incus, and other superior ones to the suspensory ligaments of the ossicular chain.

In this way the tympanic cavity is completely divided into two great compartments, and other smaller ones. An antero-inferior compartment, comprising anteriorly the Eustachian tube, through which it is continuous with the rhino-pharyngeal cavity, and comprising that portion of the tympanic cavity which is in relation with the tympanum proper, and is limited posteriorly by the inferior portion of the posterior wall of the tympanic cavity and by the septum already mentioned; it, then, has in its posterior cavity the opening for the round window, and as a proximal limit we have the oval window enclosed in the thickness of the referred septum. All these constitute the antero-inferior chamber.

Above the septum already described there is another compartment, made up of the attic, antrum and mastoid cells.

I said before that there were other smaller septi, expansions of the one just described, which, in this connection, constitute cells of minor importance. They are: Von Troelstsch's and Prussack's pockets, the cavities of Politzer and others of less constancy.

After due deliberation, I believe that this is a normal division of the tympanic cavity, and serves to explain various facts, namely, that the otitis which we call catarrhal are not panotitic, but otitis of the tubal chamber; that is, that as we consider some otitis as being limited to Prussack's pocket or pouch, we should likewise bear in mind that all the catarrhal otitis, by tubal infection, remain in their propagation, limited to the antero-inferior or tubal chamber, and that they require some time before destruction of the septum which I have described permits the process to invade the mastoid region.

Experiments on the fresh cadaver have proven the truth of my statements. I attached the canula of an irrigator to the Eustachian tube, after removing the superior wall of the mastoid antrum, and injected water, which did not flow out when the level of the fluid was in favor of the irrigator. Allowing the deposit to ascend to four or six centimetres, the water did not flow out, although its level made one suppose that the fluid most likely had passed into the mastoid region. Then, to assure myself that there was no tubal obstruction, I made a paracentesis, when the fluid was seen to make its exit with abundance through the tympanic wound. Shortly afterwards, when the external auditory canal was tamponed, the water did not come out through the mastoid region; but on lifting the vessel still higher I observed that when it was 24, 26, and in one instance 30 centimetres above the level of the water over the preparation, the septum which I have described ruptured, and then the water made its exit in an abundant stream through the mastoid antrum, as occurred before through the external auditory canal.

In judging the true merits of this experiment, we must not lose sight of the fact of the loss of resistance which takes place in the organic tissues after death.

I believe that the counterproof which I have cited will suffice to complete the demonstration why it is that mastoiditis is rare in relation with cases of suppurative otitis media.

A CASE OF OTITIC BRAIN ABSCESS (FROM CHRONIC OTORRHŒA); OPTIC NEURITIS; OPENING OF THE MASTOID AND SKULL—RECOVERY.*

BY FRANK S. MILBURY, M.D., BROOKLYN, N. Y.

Laryngologist, Otologist and Ophthalmologist to the Bedford Dispenssay and Hospital, and North Brooklyn Eye, Ear and Throat Hospital, Brooklyn, N. Y.

On May 25, 1897, Mrs. G. brought her sister, Mrs. J., aged thirty-three, to my office, bearing a letter from Dr. James J. Brown, requesting me to look over the case and render my opinion; at the same time stating that he believed a mastoid operation was indicated. As I could get no intelligent satisfaction from the patient, I interrogated the sister, who stated that there had been more or less continuous discharge from left ear since infancy, following scarlet fever. At this time it was extremely offensive. By the touch of a sound, dead bone was easily perceived in tympanum and posterior wall of meatus, which was swollen and bulged forward. Mastoid odematous and very red. The entire side of the head was acutely sensitive to the most gentle pressure. Violent, uncontrollable headaches had continued several weeks. Slight paralysis of the left side of face and right arm and leg existed. Her past life seemed wrapped in complete oblivion, and it was almost impossible for her to put what thoughts she had into words—showing amnesic-aphasia. Temperature, 100°; pulse, 115°. Excessive vomiting on the least movement of head, and nearly as much so when lying down and the head perfectly quiet. The ophthalmoscope showed optic neuritis in the left eye, and, more than that, the condtiion of the patient precluded any further examination of the eyes by the perimeter or otherwise. In all probability there may have been present hemianopsia. It was evident that mastoid necrosis and suppuration existed, with possible cerebral abscess and meningitis, and the sooner an operation was performed the better. Accordingly she was placed in the Bedford Dispensary and Hospital.

The next day, May 26, at 11 o'clock a. m., with the assistance of Drs. Bowen and Rickard, she was anæsthetized, head shaved, and under the most careful antiseptic precautions we incised the soft tissues, detached the lining membrane of the meatus, laying the ear forward, and retracted the posterior integument, giving a clear view of an extended field. The cortex in places was soft, but no fistulæ or pus were visible on the surface of the bone. By cautious chiselling, the antrum was entered. With a probe I explored, and found in every direction carious bone, which was easily removed by a sharp spoon, and nearly the entire mastoid was found to be involved. The antrum and large cell at tip of mastoid and smaller cells were filled with the foulest pus imaginable. The lateral sinus came into view, but looked blue, healthy and pulsating. A large sequestra was removed from the posterior wall of meatus, making a broad connection between the tympanic cavity and antrum. Also the posterior-superior wall, which was soft, was removed, and the moment the brain cavity was entered pus rolled out in large quantities. I enlarged the wound in skull with a rongeur, and with a sound measured the depth and extent of the pus cavity. Greatly to my astonishment the instrument passed in about 4½ inches, and I should think the sinus had a diameter of fully an inch and involved a portion of the tempero-sphenoidal lobe. Dr. Arthur C. Brush, a well-known neurologist of Brooklyn, who was called in consultation, is of the opinion that the abscess was, in this case, formed by a localized purulent meningitis, the walls of which were formed by adhesion between the dura and the arachnoid. In other words, it was an intradural abscess. He does not think it involved the brain tissue proper to any extent on account of the rapid and complete disappearance of the symptoms after the pressure was relieved by the evacuation of the pus, which would preclude any destruction of brain tissue.

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*Read before the last Session of the New York State Medical Association.

The position of the lateral sinus would indicate that it was situated above the tentorium, and the direction taken by the probe that it extended inwards, forwards and downwards; that is, along the superior border of the petrous portion of the temporal bone to or even beyond the median line.

An abscess in this situation on the left side would, by pressure on the speech centers, give rise to aphasia with or without paralysis of the muscles concerned in the movements of the face and speech, on account of their dual representation, and the fact that the more highly organized centers are the ones which are the first and most seriously affected. The right hemiplegia is easily explained by pressure on the adjacent capsule. The left facial paralysis is due to the local involvement of the facial nerve in its passage through the petrous portion of the temporal; thus this pressure would produce the amnesic-aphasia.

Two hours had elapsed in the tedious work and was well borne by the patient, but when we began there was little idea of her surviving the operation. The wound was flushed with a 1 to 6,000 corrosive sublimate, dusted with iodoform and dressed with sublimate gauze, a drainage tube being put in place, and the whole covered with cotton and a rollen bandage. She was put in bed at 1:30 p. m.; temperature, 101°; pulse, 125°; extremities cold; hot water bottles to feet, and every two hours she was given an injection of strychnia and whiskey. The after-treatment was long and tiresome: Temperature at 6 p. m., 100°; pulse, 120°, and 8 p. m., 110°. Extremities warm; reaction from ether good; vomited considerable; slept from 12:30 a. m. to 5 a. m. Frequent vomiting continued for six days, or until June 2, and for twelve days thereafter the temperature varied from 99½° to 101°; pulse from 80° to 120°, sometimes weak and intermittent, and at other times full and strong. Could retain no food in her stomach, but was nourished by enemas. At first dressing, quite a quantity of pus came from wound, but there was no odor. During the first seven days she remained in a state of almost constant lethargy, uttering no sound and apparently recognizing nothing. On the eighth day, when Dr. Bowen called her by name, asking her if she knew him, the response was by quite a firm pressure of the hand. On the ninth day, June 4, and for several days thereafter, when asked a question, the answer would be "No" or "Yes, dear," placing her hand upon her head, at the same time giving utterance to the word "pain," but not conscious of what she was doing. On June 7, when asked how old she was, she would shake her head, indicating she did not know, but when told said "that's right."

The wound healed kindly, and recovery of her general symptoms continued gradually, but slowly, to improve to a complete restitution of the mind and paralysis of face, arm and leg. The hearing in the left ear, as will be surmised, is nil; vision normal; but at rare intervals she will say funny things, as if she did not realize what she was uttering.

I have been unable to discover a parallel case in literature, and doubt if there is one. It was seen by a large number of well-known physicians, but none could understand the existing condition, and the greatest mystery of all is the recovery. Another peculiar feature is the fact of her being about four months pregnant, and through it all did not abort. The mental condition was probably due to the abscess and pressure on the brain, which occasionally occurs in such cases.

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FOREIGN BODIES IN THE EXTERNAL AUDITORY CANAL, WITH REPORT OF A CASE.

BY F. G. HACKLEMAN, M.D., RUSHVILLE, IND.

Robert W., aged twelve, was brought to my office with the following history: At the age of three years the parents began to notice that his hearing was not as acute as it had been; there was a scant discharge from the ears which lasted quite awhile; the failure in hearing was gradual. On the advice of kind neighbors and the family physician, who told them he would outgrow it, and nothing could be done, he was allowed to run on till he was twelve years of age, and by this time he was so deaf, that in going and returning from school, he was in danger of being run down by wagons on the road. As a precautionary step in preventing bodily injury to the boy, his parents decided to have his ears examined for the probable cause of the deafness. I examined the external auditory canals by reflected light and could make out some obstruction, completely occluding the external auditory canal of each ear. What it was I could not tell. I proceeded to clear the canals, but found it very difficult, as the obstructions were hard and unyielding, but by alternating with syringing with hot water, forceps and scoop, I succeeded, after four sittings, in removing three beans, of the small soup variety, from each ear, which, together with the cerumen, had moulded into a mass, completely occluding the external auditory canals. The boy had no remembrance of planting the beans in his ears, but they were certainly pushed into the ears at or before the age of three years and had remained there the ensuing nine years. There was immediate improvement in the hearing, and at the present time, six months later, the hearing is almost normal, hearing ordinary conversation six to eight feet and watch tick forty inches.

At the time of the removal, the boy's expression was dull; he was slightly asthmatic, with a feeble circulation. His general appearance has improved; he has gained in weight, and is making rapid improvement in his studies at school.

THE PROGRESS OF OTOLOGY.*

BY LAURENCE TURNBULL, M.D., PHILADELPHIA.

It is with great pleasure I accept the honor of responding to the toast "American Otology." The *eye*-men are by right *egotistical*, so that, if I claim the privilege of asking you to "give *ear*" to what I have to say, you must pardon me when, with mingled emotions of pride and satisfaction, I refer to American Otologists.

When nearly fifty years ago I dared to pose as a specialist, I was almost tabooed, and only ventured to assert myself by reporting successes in treatment, wherein I was sustained by a few liberal professional brothers and by grateful patients. I have now the compensation to which Prince Bismarck gave such feeling testimony not many years ago, when he said: "One of the advantages of becoming old is that one becomes indifferent to hatred, insult and calumny, while one's capacity for good-will and love is increased."

Gentlemen, in adopting otology as a specialty and as my life work, the obstacles in my path were many, but in looking about me to-day I see so many enthusiasts, skilled otologists or experts in the allied branches, laryngology and rhinology, that I am proud to believe my efforts have not been altogether in vain.

In the year 1845 I was elected to the Department of Diseases of the Eye and Ear in the "Western Clinical Infirmary," now the Howard Hospital, an institution devoted to specialties. This was not the first institution which made diseases of the eye and ear a specialty, for it is stated by Dr. Roosa that the New York Eye and Ear Infirmary was in existence as early as 1828. Some years later followed the Manhattan Eye and Ear Hospital; but little attention was given to otology, however, until the advent of the New York Ophthalmic and Aural Institute and Dr. H. Knapp.

In 1868, I was elected, by the Board of Trustees of the Jefferson Medical College, Aural Surgeon to the then newly organized Jefferson Medical College Hospital. Dr. Wm. Thompson was ophthalmologist, but otology had held a very insignificant place when turned over to me. Now, after nearly thirty years, the daily clinics number from thirty to forty patients, under my late chief, now colleague, Dr. S. MacCuen Smith, of this city.

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*An address delivered in response to a toast at the banquet of the Laryngological and Otological Section of the American Medical Association, at the Semi-Centennial Meeting in Philadelphia.

The "American Otological Society" was established about the same time as the Jefferson Hospital (1868), and has published from seventeen to eighteen volumes of its transactions, showing the good and creditable work done by American otologists. In 1869, Drs. Herman Knapp, of New York, and S. Moos, of Heidelberg, commenced the publication of the *Archives of Otology*, issued simultaneously in English and German. These have continued up to the present time, and in them are published many valuable papers on otology. There are two or three journals that devote special attention and have departments devoted to diseases of the ear: THE LARYNGOSCOPE, of St. Louis, *The Journal of Eye, Ear and Throat Diseases*, edited by the members of the surgical staff of the Presbyterian Hospital, Baltimore, Md., and *Annals of Otology, St. Louis.*

As a clinical teacher, my effort was to collect and put forth surgical facts in relation to the diseases of the ear, publishing them in the several medical journals. Subsequently, *I wrote the first text book, in this country, on the ear, entitled "A Clinical Manual on Diseases of the Ear,"* which was published in 1872. This soon passed into a second edition and I am now working on a third, but I was gratified, although I confess it did make me feel a "bit older," when your Chairman, Dr. Alex B. Randall, wrote me, "you are one of the few men living who can take us back to the days before Politzer (1878-87), Wilde (Dublin 1853), Toynbee (1860). In 1873, Dr. A. D. Williams, of St. Louis, published a work on the diseases of the ear.

In the earlier times, those devoting their attention to otology were few. During 1876, the Centennial year, I wrote up the "Section on Otology" as a portion of a work, "On the Progress of Surgery in the United States," by the late Professor S. D. Gross.

Among the earlier, more important, workers in Otology, were Drs. Edward H. Clark and J. Orne Greene, of Boston, and Dr. D. B. St. John Roosa, of New York City, the latter having translated the very useful publication of Von Troeltsch. I dwelt at that time upon the good work performed by these gentlemen, and especially of the writings of Professor Edward H. Clark, of Harvard University, on "Perforation of the Membrana-Tympani: Its Causes and Treatment," which was then considered the best contribution to the study and treatment of that portion of the diseases of the ear. Dr. Clark subsequently published a very valuable illustrated monograph upon "Polypus of the Ear."

In 1873, Dr. D. B. St. John Roosa published his elaborate and careful work, "A Practical Treatise on Diseases of the Ear," which has, we are pleased to note, passed to a seventh edition. The first volume was full of valuable personal experience, as giving the therapeutic and surgical treatment of all the more important diseases of the ear. Dr. J. Orne Greene was one of the first in this country to publish an account of "Aspergillus," and he then believed that the thorough use of hot water was all that was necessary for its cure. He also described the operation of detaching the auricle for the removal of foreign bodies in the auditory meatus, also "the effect of explosions of gas near the ear, causing rupture of the membrana-tympani." This same authority made careful dissections of the ears of those who had been born deaf, and published them for the benefit of his fellow-practitioners. He also operated by, and recommended, Gruber's method of operation for the tenotomy of the tensor-tympani, but advised making an incision posterior to the handle of the malleus with a broader tenotome. Dr. Greene's crowning work was to show (1879), by a report of three cases of mastoid periostitis, that phlebitis of the emissory veins of the mastoid may, and does occur, in the course of inflammation of middle ear and lateral sinus much oftener than had been observed before. Dr. Greene also published a post-mortem account of the diseased ear, and found that caries may occur with an intact drum-head, which fact has been confirmed in many instances.

Dr. Prout, in 1872, divided the adhesions between the membrana-tympani and the promontory with a very small iridectomy knife having a long handle.

In 1873, Dr. Chas. H. Burnett, of Philadelphia, published a text book upon the "Ear and Its Diseases," the chapters devoted to the anatomy and physiology being especially well written. Dr. Albert H. Buck, of New York, followed suit by publishing a similar work (1880) on "The Diagnosis and Treatment of Diseases of the Ear," as they had appeared in private and hospital practice. He (Buck) proposed "test sentences" for the hearing, but these were found impracticable. He reported the removal of horny growths from the auricle, which had been described first in this country by Dr. Roosa. He especially described desquamative inflammation of the external auditory canal, and he invented a curette very much like that devised by Politzer. The articulation between the stapes and the margin of the fenestraovalis, described originally by Eysell, was confirmed by Dr. Buck. He reported cases of deafness from parotitis, but added very little to the statements made by Wilde, Toynbee, Hinton and Roosa. In 1873, Dr. Buck reported six cases he had operated by opening the mastoid cells. In the year 1879, the *American Journal* *of Otology* was founded by Clarence Blake, of Boston. It lived a short, but useful, life, being discontinued in 1882. Blake's contributions to otology were by no means small, and we recall his modified polypus forceps and tuning-forks.

In 1883, Dr. O. D. Pomeroy published his work upon "The Diagnosis and Treatment of the Ear," a small volume of 392 pages. This is a practical work giving the author's large experience in hospital practice. In 1888, Samuel Sexton, M.D., issued his work on "The Ear and Its Diseases," being an original contribution to the study of otology. This was not intended for a text book, but was made up of several articles on catarrh of the upper air tract, oral irritations from sea bathing, wounds and injuries occurring in warfare and civil life, but the portion of especial interest to the otologist, at the time it was published, was that which referred to the operation of "excision of the drum-head and ossicles for otorrhœa," and for deafness, due to chronic catarrh of the middle ear. It included a full account of the literature of the subject, illustrated by numerous operations and their results. Sexton's work is a most useful production, and was, and is, highly appreciated, and is a credit to American otology. The distinguished author had the opportunity of discussing his original views and work at Vienna at the International Medical Congress.

In the year 1887, Dr. Alexander B. Randall, of Philadelphia, published in conjunction with Dr. Harry Lee Morse, of Boston, a series of original and copied photographs of anatomical and pathological preparations of the ear, with valuable notes.

Dr. E. B. Gleason, of this city, published, in 1894, a "Hand-book of Otology," for the use of students, a useful little book which has passed through a second edition. It may be of great interest to note that in one of the most recent works on otology (1893), namely, that of Dr. Joseph Gruber, Professor of Otology of the University of Vienna, translated and most ably edited by Drs. Edward Law and Coleman Jewell, of London, that the following American otologists are frequently quoted: Agnew, Allport, Roosa, New York; Gorham, Bacon, Boston; Bishop, Chicago; Burnett, Philadelphia; Chisholm, Baltimore; Dench, New York; J. Orne Greene, Boston; Hotz, Chicago; Ingals, Chicago; Knapp, New York; Matthewson, Brooklyn; Randall, Philadelphia; Sexton, New York; L. Turnbull, C. S. Turnbull, Philadelphia; J. C. Weir, R. F. Weir, New York; Williams, Cincinnati; and others. This shows the high appreciation in which our otologists are held abroad, and Gruber also gives me the credit for having, in 1862, been the first otologist in the United States to have opened the mastoid.

The various polyclinics which have been instituted within the last few years throughout the United States, have contributed very greatly to the successful teaching of otology. One of the earliest of these was started in conjunction with the Jefferson Medical College, but ceased after a short period, as it was found they were more successful where, like the Philadelphia polyclinic, they were entirely separated from the schools conferring degrees.

In 1893, under the editorship of Dr. Chas. H. Burnett, "A System of the Diseases of the Ear, Nose and Throat" was published in two large octavo volumes of 780 pages. The first volume was devoted to the ear, nose and naso-pharynx, and the second volume to a consideration of the diseases of the pharynx and larynx. Another work highly creditable to American otology is that of Dr. Dench, of New York. His excellent work on "Diseases of the Ear" (1894), is a text book for practitioners and students, containing 615 pages octavo, with colored plates. I desire to refer to this volume and congratulate the author and otology for the existence of so valuable a book. It is not intended as a cyclopædic work on the ear, but is one of the best that has been produced in this country. The drawings and colored illustrations compare favorably with any similar work issued abroad or at home. His chapters on physical and functional examination, particularly the latter, are especially good. The descriptions are terse and clear, and enter into the minutest details, particularly when operative procedures are concerned.

Dr. Seth Bishop, of Chicago (1897), has published a work on the "Ear, Nose and Throat" that is well worthy of careful reading.

In concluding these brief remarks, wherein I have referred to American otologists, we can but note the steady growth of interest in this specialty, and the ever increasing number of scientific men who are devoting their attention to it promises even greater things for the future. And how important this brand of medicine is! Each one of us knows, and only too well, the trials of the infirmities it seeks to relieve, and the many cases of recovery which we meet should stimulate us still more to keep this department of medicine and surgery in the front ranks in the great battle we are waging against the ills of the flesh.

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EDITORIAL.

OUR FOREIGN EDITION.

It is with pardonable pride that THE EDITORS announce that, beginning with the January, 1898, issue, an *European edition* of THE LARYNGOSCOPE will be published.

We believe this occurrence will mark a distinct era in American medical journalism, and it is, we think, a merited recognition of the great advance made by our profession in rhinology, laryngology and otology.

For many years it has been the custom of the American medical public to look to Europe as the center of theoretical and practical learning in this trio of specialties. The recent spontaneous offer of one of Great Britain's representative publishers, to assume the responsibilities of a foreign edition, may be considered a mark of approval from our transatlantic co-workers, and an index of appreciation of the literary merits of American medical writers.

In closing our third volume, we feel that we have fulfilled our promise to give the profession a useful, active and representative periodical; one that would reflect the best thoughts of the profession, non-partisan and non-sectional.

With the inauguration of this new edition, we feel that our scope and influence will be very materially increased, and it is our ambition to see THE LARYNGOSCOPE reach every medical center in the world in which there is an evidence of activity in the trio of specialties—rhinology, laryngology and otology.

Our new associations will tend to a better acquaintance with our foreign contemporaries, and we expect to publish, in each issue, an article from an English or Continental writer.

We ask the further support and endorsement of our contributors and readers, and pledge them our continued efforts to present the best and brightest thoughts gleaned in the field of our specialties.

The well-known English publishers, Messrs. John Wright & Co., of Bristol, England, will issue the European edition, and their imprint will be a sufficient guarantee that THE LARYNGOSCOPE will be presented in an acceptable form. Messrs. Wright & Co. have been favorably known to the American medical public as the successful publishers of the *International Medical Annual*, a yearly resumé of the best thoughts contained in the medical periodicals of the world.

PROGRESS OF OTOLOGY.

In the list of pioneer American otologists, enumerated in Dr. Laurence Turnbull's interesting paper on "The Progress of Otology," published in this issue of THE LARYNGOSCOPE, the writer fails to mention the name of Dr. Thomas F. Rumbold, of St. Louis. As a pioneer in special work in the diseases of the ear, nose and throat, and as an original investigator in pathology and therapy, we think that some recognition is due him.

F. M. R.

SELECTIONS.

Accidents Following Operations in the Nose and Throat.

Several interesting cases of this kind have been lately reported; among them are the following: Dr. Max Thorner, of Cincinnati, places on record five cases (*Journ. of the Am. Med. Assoc.*, September 26, 1896).

CASE I. *Functional Aphonia, following Cauterization of the Pharynx for Chronic Follicular Pharyngitis.*—The patient, a young lady 18 years old, could not pursue her studies as an elocutionist on account of her voice failing during any prolonged attempt at speaking or reading. Numerous enlarged follicles in the pharyngeal wall were treated with the galvano-caustic burner, when one day, immediately after such treatment, her voice was gone. It was a true case of functional aphonia, as the voice returned after a few days almost as suddenly as it had vanished.

CASE II. *Loss of Memory following an Insignificant Operation in the Nose.*—A boy, 16 years old, had large hypertrophies of the turbinated bodies, causing complete nasal obstruction. They were removed with the cold snare. About six hours after one of these operations, in which a piece the size of a pea had been removed from the middle turbinated, the boy had a high temperature, headache, and complete loss of memory about everything that had happened for some time. This latter condition lasted several weeks, when the memory gradually returned, although it remained sluggish for two months. The treatment was afterward continued without any further accident.

CASE III. *Intubation in an Adult, followed by a Fatal Edema of the Larynx after Extraction of the Tube.*—A young man, 18 years old, had an old cicatricial stenosis of the larynx, probably of a syphilitic origin. The dyspnea was alarming, and the smallest tube of the intubation, set for adults, was inserted without any difficulty. Fifteen hours after the introduction the tube was extracted. Soon after this, while the patient was on his way home, he was overtaken by the utmost dyspnea, and died soon thereafter. Thorner is of the opinion that, after the pressure exercised for fifteen hours by the tightly-fitting tube upon the infiltrated tissues had been suddenly relieved, a subglottic edema ensued, causing a fatal issue within a short time.

Case IV. *Severe Spasmodic Cough and Neuralgia after a Nasal Operation.*—A lady, 24 years old, was troubled with excessive fits of sneezing which had lasted for years. There was immense enlargement of the left middle turbinated, which was in close contact with the septum. Touching this hypertrophy with a probe caused severe and prolonged sneezing. After removing it with a cold wire snare the patient had a most severe attack of spasmodic cough, and not long thereafter a very intense neuralgia of the left side of the face developed. The neuralgia lasted for several days, while the cough disappeared after two and one-half weeks.

Case V. *Temporary Amauresis following Cauterization of the Nose.*—A man, 40 years old, was treated for nasal polypi, which were removed with the cold snare, and afterwards the galvano-caustic burner was used. On the day following such a cauterization the patient could not see with the right eye, the side operated upon. He could discriminate between dark and light, but could not count fingers at five feet. Ophthalmoscopic examination negative. Five day later vision improved, and was gradually, after four or five weeks, entirely restored.

A very similar case is reported by Dr. Francis R. Packard, of Philadelphia. He records the following case of *Amauresis following Intranasal Operation* (*Med. News*, October 9, 1897): A man, 36 years of age, had been treated for nasal polypi with the galvano-cautery and the cold wire snare. On one occasion, one day after a snare operation, the patient had suddenly, while writing, become blind in the left eye, the side operated upon. After a while he found that vision commenced to return and before an ophthalmoscopic examination had been finished, which failed to reveal a cause for the disturbance of vision, vision was almost completely restored. The period of complete left-sided blindness was stated by the patient to have been between twenty and thirty minutes.

Dr. L. Rethi, of Vienna, reports a case of *Death following a Number of Operations for Nasal Polypi.* The patient was a man, 62 years of age. Both nasal cavities were filled with polypi, which were removed, in several sittings, with the cold snare. The operations were followed by free hemorrhage, causing Dr. Rethi to tampon the nose with strips of dermatol gauze. Patient died on the fifth day after the last operation. The cause of death was general pyosepticemia with hemorrhagic nephritis, and purulent meningitis (*Archiv für Laryngologie* Bd. IV., 1896, p. 403).

SOCIETY PROCEEDINGS.

THE NEW YORK ACADEMY OF MEDICINE.

SECTION ON LARYNGOLOGY AND RHINOLOGY.

Joseph W. Gleitsmann, M.D., Chairman.
T. P. Berens, M.D., Secretary.

October 27, 1897.

PRESENTATION OF CASES.

Case of Rhino-Scleroma, presented by Dr. Wolff Freudenthal.

A man, aet. 49; born in Galitia; married when twenty-two years old; he has six healthy children. Fifteen years ago he had trouble with his limbs, but there were no signs of rhino-scleroma at that time.

Fourteen years ago he had a swelling of the nose, which, in the course of a few years, increased to a large size.

When the speaker saw the case, two years ago, the appearance was such as the photograph shows. The nose was hard to the touch, like ivory, and of an immense size. The nasal passages were both closed.

During the past two years the nose has continued to grow. It is traversed by many blood vessels; not hard to the touch, except on deep pressure. The larynx shows cicatricial tissue. There must be an ulcerative process still going on. Breathing was very difficult, and he has worn a tracheotomy tube for seven years. The scleroma has extended away down into the trachea and he uses a bougie two or three times daily in order to clear his trachea from pus, etc. During the last few days he has had seven hemorrhages, sometimes losing over a pint of blood. He is very much exhausted.

Upon trying to look into the trachea, nothing but a mass of pus and blood was visible.

A Case with Pulmonary and Laryngeal Tuberculosis Practically Restored to Health, with the following history, was presented by Dr. Joseph W. Gleitsmann.

He read the subsequent letter, in which the family physician, Dr. Schalk, gives an account of the condition previous to the curettement of her larynx:

"On your request, I herewith send you a short record of Mrs. S.'s case previous to your taking charge of it.

"In the winter, 1894, Mrs. S. called on me, complaining of cough with expectoration and night sweats. She told me that her mother had died from consumption of the throat after childbirth. On physical examination, I found an infiltration of the apex of the left lung, its upper edge standing somewhat lower than the right one. Respiratory murmer of a sharpened character. There was fine crepitation; otherwise the patient was of robust appearance, well nourished and apparently in the best of health. The examination of her sputum (specimen of Dec. 13, 1894) showed the tubercular bacilli in moderate number. The patient gradually grew worse, lost in weight, and an examination of her sputum showed tubercular bacilli in clean culture. In fact, the bacilli were so numerous that in making the specimen it would not give up its red color, so that I immersed it in the discoloring fluid several times, until the idea entered my mind that it might be the enormous amount of bacilli which prevented the specimen from giving up its color.

"At the same time, Mrs. S., who continued to live in very unfavorable sanitary circumstances, lost one of her children with tubercular meningitis, undoubtedly from infection.

"Soon after this, she developed hoarseness and the laryngoscopical examination showed an ulcer on the left vocal cord. Both arytenoids, the false cords and the epiglottis were swollen and covered with mucous. In March, 1897, the patient gave birth to a healthy child, but during her childbed she was in a most pitiable state. Her larynx and pharynx were in such a condition that she was unable to take any nourishment, except once in a while a glass of milk, and this only after having used a powerful cocaine spray. It was then that, as no treatment afforded any relief more than temporary, I asked you to perform the curetting on Mrs. S.'s larynx. All that I expected at that time was that it would enable the patient to take nourishment again, so that I gladly confess that the result far exceeds our expectations."

The patient was received at the German Hospital May 27, 1897, and prepared for curettement May 29. As applications of cocaine produced little effect, a submucous injection was made into the right arytenoid swelling, which brought on persistent bleeding. Dr. G., therefore, desisted from curettement and injected a 50 per cent. solution of lactic acid into both arytenoid infiltrations. After several days the slough at the left side exfoliated, leaving a healthy surface, and the right arytenoid became smaller and firmer, permitting a thorough excision of the right arytenoid swelling and of the posterior wall on June 9.

On account of severe dysphagia, the patient was nourished by enemata from May 27 to June 17, after which time there was no more difficulty, but some pain yet in deglutition. Besides local treatment, she received internal and general medication.

June 30, some infiltration was detected at the posterior external wall and removed with Heryng's double curette, after which operation the patient lost all abnormal sensation when swallowing.

She was discharged from the hospital July 15, and spent the summer in Sullivan county, New York. She gained there twenty-five pounds, feels perfectly well in every respect, her voice is strong and only slightly hoarse, and the examination of her chest reveals no dullness and no rales. The interior of the larynx presents normal contours, the vocal cords have slightly reddish color and approximate perfectly at phonation. There is a slight asymmetry of the arytenoid region, which appears to be fuller and thicker than in a normal larynx, and represents cicatrization from the previous operation. The patient expects to remain in the country for some time to come, but the speaker will have opportunity to keep posted as to her condition and will report to the Section if any change should occur.

A Case Where Two Very Large Pieces of Necrosed Bone from the Antrum Were Extracted Through the Right Nasal Opening,

reported by Talbot R. Chambers, M.D., of Jersey City, N. J.

Charles Luth, aet. 25, inheritance good. Two brothers and one sister died in infancy. One brother, living, is healthy.

His general condition has been one of little ambition or strength, with no appetite, only eating just enough to sustain life; shunned by everybody and an annoyance to himself and others by reason of the penetrating odors emitted from his nose and mouth.

About three weeks since, pains starting at the right antrum and running around the head through the mastoids and occiput, caused him to seek medical aid. He was referred to me by S. F. E. Lambert, of Greenville.

An abstract of his previous history:

Black measles at two years of age, in which he was in convulsions fifty-four hours, and which left him with external strabismus of the right eye. Between four and five years of age he had an attack of diphtheria and later of scarlet fever. Between the ages of seven and twenty-one, he was a sufferer from articular rheumatism and tertian ague. He had a fall at six years of age for which several stitches were put in the wound, just external to the right eye. Later he had a second fall, breaking off a portion of the left median incisor tooth, and injuring his nose. When sixteen years old, he had a discharging sore for eighteen months, over the right ankle joint.

Two years and a half ago, he had for six months recurring swellings of the right antrum. An attack would last for two or three days. An abscess at the right lachrymal region ended these. When these swellings would occur, he would, by digital pressure, squeeze out pus from the gums over the teeth of the right upper jaw and especially freely through the cavity left where the left median incisor tooth had been extracted. There was no pain in the face all this time.

During the past two years he had been the cause of considerable worriment to his family. He would sleep soundly at night, but a number of times every night attacks of suffocation and difficult efforts at breathing, at first, alarmed them, they fearing that he would strangle to death; but shortly, as soon as he had managed to clear out the mucous and matter from his throat, he would be relieved for the time being. Recently, his family had become accustomed to these attacks. In the morning it would take him from a quarter to one-half an hour to get his mouth and throat clear, and not a single hour during the day was he free from hawking and spitting; during the day there was constant dropping in the throat.

On October 21, he was first seen by me. An examination showed both nostrils totally occluded by a foul smelling detritus. The throat and roof of mouth and tongue were thickly coated, and he was veritably a walking dead cess-pool with a lively stench.

After cleansing the right nostril as well as possible (though very imperfectly) with a cotton-tipped probe, a piece of necrosed bone was made out in the position about where the middle turbinate bone should have been. This piece was found to be very loosely attached, and after considerable coaxing and teasing, and with the plentiful use of cocaine, it was brought away through the right nostril. Free hemorrhage followed for a few minutes, which was stopped by a liberal use of three per cent. solution of peroxide of hydrogen.

On October 23, a second sequestrum was coaxed out of its bed at the anterior base of the right antrum. The first piece of bone measured 1 1/2 x 3/4 x 1/2 inches and this second piece was but little smaller.

There now remains hypertrophied middle turbinated bone on the right side and the internal antrum wall is gone. A probe passes into the antrum to a point behind the eye-ball and outwards to the antrum's external wall. There is a large fenestrum in the septum midway back. Near the median line a probe may be passed well into the sphenoid body. The left nostril is now free and in fair condition. There is an unobstructed view of the pharynx through both nostrils. An electric light placed in the closed mouth fails to penetrate the suborbital tissues, showing their increased density.

In the mouth, the uvula is seen adherent to the left palate, probably a sequel of his diphtheria.

The right eye has atrophic and pigmented choroiditis and is practically blind, v. fingers, 3 ft. left eye, normal v. $^{15}/_{10}$.

To-day, his condition is one of marvelous improvement. He can detect the odor of tobacco. Previously, he could not recognize ammonia. There is no dropping and no odor. He may breathe with his lips closed. He sleeps continuously at night without interruption. He has appetite and enjoyment in eating. The world seems a different world to him and he expects to go to work again.

It is of interest to note that the first sequestra removed was the palatal bone, as proven by the absence of firm resistance on pressure made against the roof of the mouth at the position where it should be, and also at the inner canthus of the eye, where the skin tends to balloon when the patient compresses air in the throat passages.

The second fragment is the base and inner wall of the antrum and measures a little shorter but is heavier than number one.

On October 29, a third sequestra was removed from the anterior floor of the right nasal fossa. It measures $^5/_8 \times {}^3/_4 \times {}^1/_2$ inch.

It now looks as though all dead bone had been removed and the patient's future promises to be one of comfort.

Sketches from the Meeting of the British Medical Association at Montreal.

Dr. D. Bryson Delavan gave an interesting account of this meeting. The sessions of the Section on Laryngology and Otology were held in one of the rooms in McGill University, under the chairmanship of Dr. Greville Macdonald, of London, who was admirably assisted in the successful conduct of the meeting by one of the Vice-Presidents of the Section, Dr. Herbert S. Birkett, of Montreal, and the two efficient Secretaries, Dr. H. D. Hamilton, of Montreal, and Dr. William Permewan, of Liverpool.

The number of members from England was small, and included, in addition to the Chairman and Secretaries, Mr. Lennox Browne and Dr. Charles Warden. The representation of invited guests from the United States, among those who read papers or took part in the discussions, was remarkably strong, including, as it did: Drs. Albert H. Buck, Gorham Bacon, R. P. Lincoln, Chas. H. Knight, James E. Newcomb and John O. Roe, of New York; Drs. Clarence J. Blake, Henry Lee Morse, Samuel W. Langmaid, John H. Farlow, of Boston; Dr. John N. Mackenzie, of Baltimore; Dr. Ernest L. Shurly, of Detroit; Dr. William C. Glasgow, of St. Louis; Dr. E. F. Ingals, of Chicago; Dr. Joseph H. Bryan, of Washington; and Dr. W. H. Daly, of Pittsburgh.

The discussion on turbinectomy, opened by the President, was interesting, as treating of and condemning a surgical abuse fortunately unknown in this country.

The discussion on "The Ultimate Results of Operation on the Mastoid in Suppurative Disease," brought out a rare array of talent, and, although the participants departed somewhat widely from the subject, their contributions were the most useful and interesting which were presented during the meeting of the Section.

No account of the meeting would be complete without some allusion to the social side. The guests were most hospitably entertained by dinners, public and private, by charming excursions and by a large number and variety of social functions.

The whole city was practically placed at the disposal of the company and the hospitality, geniality and generosity of the hosts left nothing to be desired. The occasion will long be remembered as one of the most delightful of its kind.

Reminiscences of the International Medical Congress at Moscow, by Dr. J. W. Gleitsmann. (See page 271, THE LARYNGOSCOPE, Vol. III, No. 5.)

Nasal and Other Polypi, paper by Henry L. Swain, M.D., of New Haven, Conn.

After apologizing for choosing this subject, the author indicated the points of view from which he would consider the subject.

Typical nasal polypi have always been noticed to be more frequently present in the upper region of the nose, in or about the middle turbinate body. It seemed that polypi, in some instances, were developed where there was manifest only that form of endo-rhinitis which we are pleased to give the extremely indefinite title, hypertrophic catarrh. This caused, in the region of the middle turbinate body, hiatus semilunaris or thereabouts, certain effects, of which the outcome was the mucous polyp, coming therefore directly from a thickened mucous membrane. When pus comes from the nose polypi seem to be developed in two ways: first, in the production of genuine granulation tissue, and from it, polypi; the other, by a thickening of the normal membrane gradually assuming the external form of a polyp. As thickenings occurring in the inferior turbinate and septum were never in any sense polypi, it suggested itself to inquire: first, into the differences in the structures between various regions of the nose; secondly, whether there could be any difference in the morphological constituents of the polypi produced with or by pus, and without; thirdly, what was the general relationship borne by the polyp of the middle ear to its mucous membrane; fourthly, whether there was not the same index of change to be noticed as takes place in the case of middle turbinate polyps, from the normal mucous membrane of the inferior turbinate to its nearest approach to a mucous polyp, the white pendulous posterior hypertrophies of the asthmatic or hay-fever subject, and, finally, if this were true, would it also be true that the fibro-myoxmata of other regions vary from the typical mucous polypi only in the same measure that a normal mucous membrane of that part did from that of the middle turbinate body?

Dr. Earle Terry Smith and Dr. Swain examined a large number of polypi: First, from all sorts of nasal cases, purulent and non-purulent, being extremely careful to always compare polypi of identical situations, and the finest histological changes were chronicled. Specimens were stained for possible micro-organisms in the tissues, as also for structure changes or peculiarities of the tissue-cells, and of the leucocytes. Second, antral polypi, ear polypi, posterior hypertrophies of the inferior turbinate, papillary polypi of the septum, fibro-myxomata of the larynx and of the epiglottis, polypi of the uterus and a fibroma moluscum of the skin were carefully examined and compared. The greatest number of specimens were examined with regard to the differences between pus cases and others, and only a trifling variation was discovered. No bacilli, or cocci, or parasitic bodies seemed to be present in the tissue, nor yet in the leucocytes. It has been observed that the blood of a patient, having a localized purulent process, almost invariably contains more leucocytes than normal blood. Why may not a purulent antrum be diagnosticated in this way? A section from the base of a non-purulent antrum polypi and that from an empyema case looked identical. The majority of ear polypi differed microscopically from their nasal brethren only in the character of the epithelial cells and tissues, and in the amount of fibrous and glandular tissue. There were sometimes more leucocytes present in pus cases in the substance of the polypi than in the non-purulent. In asthmatic cases, however, during paroxysms, there would be more leucocytes than in pus cases. Some ear polypi are papillary hypertrophies of the mucous membrane; others are pure œdematous fibromata. He agrees with Jonathan Wright that certain nasal polypi have papillary corrigations on the surface, due to connective tissue, which contracts, forming the folds which characterize these growths. Such polypi contain a large amount of fibrous tissue. Other ear polypi are types of granuloma, and one finds all the gradations in different polypi from this simple form of tissues to the well developed conditions present in the usual œdematous fibroma; it apparently simply requires time to produce the necessary differentiation from a growth of young cells and blood vessels to the adult tissue. He emphasized the wisdom of leaving as smooth a surface as possible after operation, as any bits or tags of tissue left are liable to form a nucleus for the development of granulation tissue. In the middle turbinate such a simple knob of granulation tissue is liable to develop into an œdematous fibromata, which rarely ever has any ciliated epithelium. The transition being from the crudest form of covering to a mongrel flat epithelium, then to the ordinary epithelium found on the surface of polypi where they rub together or have lost their ciliated cells. Other structural changes occur by which the simple mass of blood vessels and cells receive an intercellular frame work. The young, round cells become fewer in number and we have a fine mesh work of reticular tissue, with spaces between the fibers, which are filled with a few cells and a semi-fluid substance. The blood vessels become fewer in number and are scarcely found except near the surface. This describes the typical mucous polyp which all clinicians meet. In pus cases, a granulation on the septum seems never to develop a polyp but becomes a solid knob of fibrous tissue covered with flat or layer epithelium. We all know that such knobs on the septum may resist persistently our efforts to reduce them.

He compared pendulous white hypertrophies with polypi.

The specimens examined seemed to prove that the tumors did not vary one from the other more than did the normal tissue of the parts producing the growth; the more dense and fibrous the tissue was, so was also its form of mucous polyp.

After discussing the difference of a hypertrophic condition of the mucous membrane and a polyp, he proved that polypi are purely inflammatory, and involved the pre-existence of a hypertrophic condition of the mucous membrane. The reason why one man has a polyp and the other not, under precisely similar local conditions, seems to lie in some inherent quality of his tissue.

Therefore a polyp is a symptom and not a disease.

As polypi increases in size, nature makes an effort to give them sufficient hold for heavier growth and, as the result, the intimately related periosteum becomes involved, and still later the bone itself. Hajek finds that, in most cases of pendulous hypertrophies of the middle turbinate, there sooner or later appears some participation in the diseased process on the part of the external periosteum. It becomes thickened, full of young proliferating connective tissue cells and leucocytes, and along the free edge of the bone osteoblasts are found later. These osteoblasts cause a deposit of new bone, frequently in the way of rough projections from the surface.

On the other hand, sometimes in the same subject, there is found quite an opposite process, namely: a resorption of bone substance, a so-called rarifying ostitis. Here, apparently, by some overcrowding of the marrow spaces, or of the sub-periosteal tissues, or by contraction of the fibrous tissue, which is always deposited where active connective tissue hyperplasia is going on, there occurs a complete absorption of the bone in such a way that small islands are cut off from the main mass and gradually disappear, or points, spiculæ, or projections occur from the surface of the bone, giving to the base of larger and older polypi a feeling of grating when a probe is pushed into the mass to see if there is any retention abscess. There is not a death and mortification of the bone, as must be understood by caries, but rather a mere rarifying or absorbing process. It would be easy for one to be led to believe that the bone changes were very general, but this is not the case. A specimen was shown, exemplifying in no uncertain way how frequently what we remove as single growths are really but dependent parts of a large hypertrophy; this mass brought away with it the bone upon which it had grown. The main bone was found healthy, the periosteum very much thickened, filled with young active tissue cells, and with every evidence of hyperplasia. There is also the beginning of the formation of the rows of osteoblasts, but no indication of any proliferating or rarifying ostitis. But the fact that the bone broke off so easily may mean that rarification has begun.

The speaker could only suggest as a reason why some patients get well and others do not, that the whole process is not dependent on too vitiated a constitution without too much of the neurotic element, and that the local process is not far advanced, or that our local treatment actually stops the local endo-rhinitis. In the second case, where for some reason they get well after endless repetition of the same measures, is that the cicatricial process finally so reduces the blood supply to the parts as to starve the more active inflammatory productions, and the growth of the new tissue becomes less and less, the process stopping before it actually causes rarification or disease of the bone.

The evident clinical deduction from all the foregoing is that the sooner we get rid of the polyp the better; secondly, in our more chronic cases, if we can get rid of the whole diseased portion of the bone we shall have done the best we can for our cases. The latest laboratory work confirms the advisability of removing the anterior end, and sometimes larger portions of the middle turbinated bone.

BOOKS AND PAMPHLETS RECEIVED.

The President's address, delivered before the American Laryngological Association, at its Nineteenth Annual Congress. By Charles H. Knight, M.D. Reprint, *New York Medical Journal*, August 28, 1897.

Removal of the Drum-head and Malleus in Cases of Negative Rinné. By B. M. Behrens, M.D. Reprint, *International Medical Magazine*, May, 1897.

Three Cases of Obscure Laryngeal Disease—Tuberculosis, Syphilis, Epithelioma. By Charles H. Knight, M.D. Reprint, *Medical News*, June 5, 1897.

The Absolute and Permanent Cure of Tonsillitis. By Edwin Pynchon, M.D. Reprint, *Alkaloidal Clinic*, October, 1897.

Exostosis of the Septum as a Cause of Chronic Naso-Pharyngitis. By Charles H. Knight, M.D. Reprint, THE LARYNGOSCOPE, April, 1897.

BOOK REVIEW.

An Epitome of the History of Medicine.

By Roswell Park, A. M., M. D., Professor of Surgery in the Medical Department of the University of Buffalo, etc. Illustrated with portraits and other engravings. One volume, royal octavo, pages xiv—348. Extra cloth, beveled edges, $2.00 net. The F. A. Davis Co., Publishers, 1914 and 1916 Cherry Street, Philadelphia.

In the field of recent English medical literature this volume is quite a new departure. Its appearance will add another impetus to the study of medical history, presenting to the profession succinct information of a much-neglected department of our science. The material has been carefully selected, excellently arranged and presented in a classical style. The book is replete with copies of rare pictures and portraits, and is a valuable addition to the medical library.

About Children.

A series of lectures given to the nurses in the Training School of the Cleveland General Hospital. By Samuel W. Kelley, Cleveland. The Medical Gazette Publishing Company, 1897.

This is a well-arranged little volume, just the book for the professional nurse and the busy practitioner. A correct diagnosis in diseases of children is a difficult matter in many cases, and the long experiences of the author in pedistric practice furnishes many suggestions of value. The series of lectures are written in an interesting style and contain many original and practical points.

Relation of Food to Health and Premature Death.

By Geo. H. Townsend, LL.B., with the collaboration of Felix J. Levy, A.M., M.D., George C. Crandall, B.S., M.D., and H. G. Nicks, M.D. Cloth, 400 pp., $1.50. Witt Publishing Co., St. Louis.

This is a practical volume on foods, their properties, methods of preparation, incompatibilities, dietaries, idiosyncrasies and dietetic treatment of disease. The book is very comprehensive in character and specific in its treatment and aims to be an epitome of all scientific investigations of the subject matter. It is written in a popular piquant style and contains a vast fund of most useful information.

NEWS ITEMS.

Newberry Library Reception.

On Wednesday evening, December the 8th, the trustees of the Newberry Library, of Chicago, tendered a reception to Professor Nicholas Senn, who was the recipient of great honors during the Medical Congress in Russia. Dr. Senn has been a very generous donor to the Newberry Library, having given not only many books from his private collection, but he has purchased two foreign libraries of inestimable worth for this vast free library. The first large gift from Dr. Senn was the library of Dr. Wilhelm B. Baum, of Göttingen; the second, lately received, was the famous collection of Dr. Emil Du Bois-Reymond, of Berlin. To these collections Dr. Senn has added largely, from time to time, from his private library, including among his gifts the original manuscripts of some sixty works from his own hand. The medical profession is generally familiar with the working contents of this department, but few probably are aware of the rare and costly editions scattered through it, especially through the Senn collection.

Married.

Dr. Ralph J. Wenner was married on October 19th to Miss Adella Hollinger, of Sandusky.

Removals.

Dr. G. A. Ahret, from 38 Public Square to 89 Euclid avenue, Cleveland, O.

Dr. Leo Caplan, from 500 N. Jefferson avenue to 3104 Washington avenue, St. Louis.

Dr. P. T. Kilgour, from 704 Elm street to College Hill, Cincinnati, O.

Dr. J. B. Keber, from 707 Olive street to Century Building, St. Louis.

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